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CALENDAR

OF THE

University of Western Australia
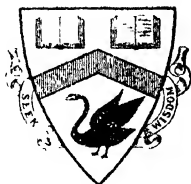
FOR THE YEAR

1925.

APPLICATIONS FOR ENROLMENT.

ALL STUDENTS, IRRESPECTIVE OF THEIR YEAR OF STUDY, are required to intimate to the Vice-Chancellor their intention to enrol in 1925, not later than the 28th day of February. Such intimation must be made upon a prescribed form obtainable at the University Office, and shall include a statement indicating (A) the degree for which the applicant is working ; (B) the year of study ; (C) the courses that he desires to attend.

TABLE OF CONTENTS.

PREFACE.

The University of Western Australia was incorporated and endowed by an Act of the State Legislature, entitled "The University of Western Australia Act, 1911," which received the Royal assent on the 16th February, 1911.

The Governing Authority of the University consists of the Senate and Convocation.

The first Senate was appointed by notice in the *Government Gazette* of the 13th February, 1912, and Convocation was formally declared to be in existence on the 21st February, 1913, when it had reached the minimum number of sixty members prescribed by the Act.

The Senate is composed of 18 members, of whom one-third are appointed by the Governor in Council, and the remaining two-thirds are elected by Convocation. The tenure of office is for six years, three members retiring annually. The entire control and management of the University is vested in the Senate subject to the Statutes.

The qualifications for admission to Convocation are as set out in S. 17 (1) of the University Act and Statutes Nos. 3 and 4.

The Chancellor is the head of the University. He is elected annually by the Senate from amongst its own members, and presides over all meetings of the Senate at which he is present. He is empowered to confer degrees personally or by deputy and in his absence is represented by the Pro-Chancellor. The Pro-Chancellor also is elected annually by the Senate.

The Warden of Convocation is chosen annually by Convocation, and presides over all meetings of Convocation at which he is present.

The Vice-Chancellor is the Chief Executive Officer of the University. He is appointed by the Senate for a period not exceeding two years.

The Senate is empowered to provide instruction and to grant Degrees, Diplomas, and Certificates in any branch of knowledge in which they are granted in the United Kingdom, and to hold public examinations for the purpose of testing the proficiency of candidates in any branch of knowledge.

University legislation is in the form of Statutes originated in the Senate, confirmed by Convocation, and finally approved by the Governor in Council.

Degrees are granted in the Faculties of Arts, Science, and Engineering. Included in the Faculty of Science is the Department of Agriculture. Faculties of Law, Medicine, and Music have also been constituted for the purpose of admission to Degrees *ad eundem gradum.*

The Courses for the Degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Agriculture extend over a period of not less than three years, and that for the Degree of Bachelor of Engineering over not less than five years. A Diploma in Agriculture is awarded which may be obtained after a course of study extending over not less than two years.

The Degrees of Master of Arts, Doctor of Letters, Master of Science, Doctor of Science, and Master of Engineering are also granted by the University.

Evening instruction is provided in the Faculty of Arts, and, by arrangement with the Perth Technical School, in certain Science subjects

In compliance with the expressed wish of the Legislative Assembly no fees are charged to students. Fees are charged for the Annual Examinations.

In 1924 the number of matriculated students on the Roll was 374.

Certain courses in the Faculties of Arts, Science, and Engineering may be attended at the Perth Technical School or the School of Mines of Western Australia, Kalgoorlie, which for this purpose are affiliated to the University.

ENDOWMENT AND REVENUE.

By " The University Endowment Act, 1904," the Governor in Council was empowered to set apart Crown lands by way of permanent endowment of the University.

Prior to the appointment of the first Senate and by virtue of this Act, lands to the extent of about 4,146 acres, consisting chiefly of Perth suburban and country townsite lots, were vested in trustees, and have now been transferred to the University.

SENATE AND OFFICERS OF THE UNIVERSITY.

VISITOR.

The Governor of the State of Western Australia, His Excellency the Hon. Sir William Campion, K.C M G

CHANCELLOR.

The Hon Athelstan John Henton Saw, O.B E , M L.C., M.A., M.D., F.R.C.S., Edin.

PRO-CHANCELLOR.

Cecil Rollo Payton Andrews, M A.

WARDEN OF CONVOCATION.

William Ardagh Gardner Walter, M.A.

VICE-CHANCELLOR.

Professor H. E. Whitfeld, B.A., B.E., M.I.M.M., M.I.E.A.,

THE SENATE.

In order of Year of Retirement

†James, The Hon Sir Walter Hartwell, K C	1925
†Jull, Roberta Henrietta Margaretta, M B , C M.	1925
*Sandover, Alfred	1925
†Riley, The Most Rev Charles Owen Leaver, O.B.E., M.A., L.L.D., D.D., V.D.	1926
†Simpson, Edward Sydney, D Sc , B E.	1926
*Somerville, William	1926
†Hancock, William John, D.Sc., M.Inst C.E., M.I.E.E. ...	1927
*Roberts, George Moyses	1927
†Ross, Professor Alexander David, M.A., D.Sc., F.R A.S., F.R.S.E., F.Inst.P.	1927
*Kirwan, The Hon. John Waters, M.L.C.	1928
†Saw, The Hon. Athelstan John Henton, O.B E., M L.C., M.A., M.D., F R.C.S., (Edin)	1928
†Whitfeld, Professor Hubert Edwin, B.A , B.E., M.I.M.M , M.I E A.	1928
†Atkinson, Reginald Cyril Everitt, M.A., M.D., D.P.H. ...	1929
*Battye, James Sykes, Litt.D., LL.B.	1929
†Murdoch, Professor Walter Logie Forbes, M.A.	1929
†Andrews, Cecil Rollo Payton, M.A.	1930
*Drew, The Hon. John Michall, M.L.C....	1930
†Walter, William Ardagh Gardner M A.	1930

* Appointed by the Governor. † Elected by Convocation.

EX-CHANCELLORS.

The Hon. Sir J WINTHROP HACKETT, K C M G , LL.D. ..	1912-1916
The Most Rev. CHARLES OWEN LEAVER RILEY, O.B E., M.A., LL.D., D.D., V D.	1916-1922

EX-VICE-CHANCELLORS

Professor H E WHITFELD	1913-1915
Professor W L. F MURDOCH ..	1916-1917
Professor A. D. ROSS	1917-1918
Professor JOHN W. PATERSON	1918-1921
Professor E. O. G. SHANN	1921-1923
Professor N T. M WILSMORE	1924

PAST MEMBERS OF THE SENATE.

BATH, The Hon THOMAS HENRY . 1912 1913 and 1913 1919	
BURROWS, FREDERICK WILLIAM . 1912 1917 and 1917 1918	
DRAPER, THOMAS PERCY, C B E , K.C, B A.	1914-1920
EWING, The Hon. JOHN, M L C	1923-1924
GRASBY, WILLIAM CATTON, F.L S .	1912-1914
HACKETT, The Hon. SIR JOHN WINTHROP, K C M G , LL D	1912-1916
KEENAN, The Hon NORBERT, K C, B A 1912 1916 and 1916 1918	
KINGSMILL, Senator WALTER, B A	1918 1919
MALE, The Hon ARTHUR, M.L.A	1916 1917
MANN, EDWARD ALEXANDER, F I C, M H.R.	1920 1921
MEAD, GERTRUDE ELLA, M B, B S . 1912 1915 and 1915 1919	
MOSS, KATHERINE, B A 1912 1913 and 1913 1914	
SHANN, Professor EDWARD OWEN GIBLIN, B A .	1920 1921
SMITH, JAMES WALTER, K C, LL D	1912-1915
THOMPSON, HENRY SHERMAN, M A .	1921
WALKER, The Hon. THOMAS .	1912 1916
WILSMORE, Professor NORMAN THOMAS MORTIMER, D Sc, F I C	1916 1922
WILSON, The Hon FRANK, C M G . . .	1912 1915

GENERAL PURPOSES COMMITTEE.

The CHANCELLOR, the PRO-CHANCELLOR (Chairman), Dr J S. BATTYE, Dr. ROBERTA H. M. JULL, Archbishop RILEY, Dr. E. S SIMPSON, Mr. W. SOMERVILLE, Mr W. A. G WALTER, and Professors MURDOCH, ROSS, and WHITFELD.

FINANCE COMMITTEE.

The CHANCELLOR, the PRO-CHANCELLOR, Dr J. S. BATTYE (Chairman), Messrs. A. SANDOVER, W SOMERVILLE, and W. A. G. WALTER, Professor MURDOCH and Professor ROSS,

EXTENSION LECTURE BOARD

The CHANCELLOR, the PRO-CHANCELLOR, the VICE-CHANCELLOR, Professor ROSS (Convener), Professors PATERSON and SHANN, Associate-Professors TATTERSALL and WOOD, Dr J. S. BATTYE, Dr. R. H. M. JULL, Mr. W. SOMERVILLE.

PUBLIC EXAMINATIONS BOARD

Representing the University—The VICE-CHANCELLOR (Chairman), Professors NICHOLLS, MURDOCH, PATERSON, ROSS, and SHANN, Associate-Professor WOOD, and Mr. G. IRVING.

Representing the Education Department—The DIRECTOR OF EDUCATION and Messrs J PARSONS, W CLUBB, and W J ROONEY

Representing the Secondary Schools for Boys—Rev. Canon HENN, Rev. Brother W. I. Power, and Mr. M. WILSON.

Representing the Secondary Schools for Girls—Miss M. F. PARNELL, and Mrs RUSSELL SMITH.

ADVISORY BOARD FOR PUBLIC EXAMINATIONS IN MUSIC.

The VICE-CHANCELLOR, Professor ROSS (Chairman), Rev. FATHER MCMAHON, Messrs. A. J. LECKIE, and F L. ROBERTSON, Mrs. A. G. CURTHOYS, Miss H. B. JOYCE, Miss M PICKERING, Miss I. G. ROBERTS.

ADVISORY BOARD FOR EXAMINATIONS IN DRAWING.

The Vice-Chancellor, Professor WHITFELD (Chairman), Associate-Professor TOMLINSON, and Messrs J H EALES, J W. R. LINTON, G. PITT-MORISON, G T POOLE, A R L WRIGHT, and A. B WEBB.

APPOINTMENTS BOARD

Representing the Senate.—The Pro-Chancellor and Mr. SANDOVER.
Representing the Teaching Staff.—Professors ROSS and WHITFELD.
Representing the Guild of Undergraduates.—Mr. T. A. HARTREY.
Representing outside business interests—(To be appointed].

LIBRARY COMMITTEE.

The Heads of Departments and Dr J. S. Battye

UNIVERSITY REPRESENTATIVES ON THE RHODES SCHOLARSHIP COMMITTEE

The CHANCELLOR and Associate-Professor WOOD.

CORRESPONDENT TO THE BUREAU TO THE UNIVERSITIES OF THE EMPIRE

Professor ROSS

SOLICITORS TO THE UNIVERSITY

Messrs STONE, JAMES, & Co.

AUDITOR TO THE UNIVERSITY

D. J. GOYDER, F.C.P.A.

ADMINISTRATIVE STAFF

Clerk of Senate and Convocation—S H FLETCHER.
Clerk (Accounts, Public Examinations Board and Music Advisory Board)—R. E. PARKER, L.I.C A
Typist—I LEACH, R E. GRAHAM, M HOWLETT
Typist and Librarian, Engineering—M. A. RIDLEY.
Janitor.—A. DAVIDSON
Gardener—J MEADOWCROFT
Librarian—A. S. BROWN.
Assistant Librarian—M. H. R DE LAETER.

MECHANICS AND LABORATORY ATTENDANTS.

Geology—F. G. BAKER.
Mining and Engineering.—A. S. Philp, R. ROWE.

TEACHING STAFF.

PROFESSORS.

Agriculture (Hackett Chair).—JOHN WAUGH PATERSON. B.Sc., Ph.D.
Biology.—GEORGE EDWARD NICHOLLS, D.Sc., A.R.C.Sc.
Chemistry.—NORMAN THOMAS MORTIMER WILSMORE, D.Sc., F.I.C.
English.—WALTER LOGIE FORBES MURDOCH, M.A.
History and Economics.—EDWARD OWEN GIBLIN SHANN,' B.A.
Mathematics and Physics.—ALEXANDER DAVID ROSS, M.A., D.Sc.,
    F.R.A.S., F.R.S.E., F.Inst.P.
Mining and Engineering.—HUBERT EDWIN WHITFELD, B.A., B.E.,
    M.I.M.M., M.I.E.A.

ASSOCIATE ·PROFESSORS.

Civil Engineering.—ALFRED TOMLINSON, M.Sc. (Eng.), A.M.Inst. C.E.
    M I E.A., M.C.I.
Classics and Ancient History.—GEORGE WOOD, M.A.
Organic Chemistry.—GEORGE TATTERSALL, M.Sc., F.I C.

LECTURERS IN CHARGE OF DEPARTMENTS.

Electrical Engineering.—POUL HERMANN FRAENKEL, B.E.E.
French and German.- -GEORGE IRVING, M.A
Geology—EDWARD DE COURCY CLARKE, M.A.
Mental and Moral Philosophy.—ARTHUR CLAMPETT FOX, ██M.A.

LECTURERS.

Classics and Philosophy.—WILLIAM ALLISON LAIDLAW, M.A.
English.—HENRY SHERMAN THOMPSON, M.A.
Mathematics and Physics.--ROLAND DALE THOMPSON, M.A., M.Sc.
    F.R.A.S., A.Inst.P.
    MARGARET BARR MOIR, M.A., D.Sc.

ASSISTANT LECTURERS.

Biology.—EILEEN RUTH LATHLEAN REED, B.Sc.*
    DOROTHY FRANCES MILNER, B.Sc.
French.—R. COLLOT d'HERBOIS.
History.—FREDERICK ALEXANDER, B.A.
Mathematics and Physics.—ALLEN ARTHUR ORTON, B.A., B.Sc.

PART-TIME LECTURERS.

Education.—WILLIAM JAMES ROONEY, B.A.
German.—R. M. GRAEBNER.
Surveying.—GEORGE MARSHALL NUNN, L.S.
Veterinary Science.—ERNEST ALBERT LE SOEUF, B.V.Sc., F.Z.S., V.D.
Agricultural Botany.—W. M. CARNE.
Architecture.—A. R. L. WRIGHT, L.R.I.B A.
Dairying.—P. G. HAMPSHIRE.

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* Temporarily interchanged with JESSIE GERTRUDE WRIGHT, Ph.D.,
Lecturer in Botany of the University of Toronto.

PART-TIME LECTURERS—*continued.*

Horticulture.—G. W. WICKENS.
Mechanical Drawing.—W. McLAGAN.
Municipal Engineering.—H. T. HAYNES, M.Inst.C.E., M.R.S.I.
Music.—A. J. LECKIE, Mus. Bac., F.R.C.O.
Railway Engineering.—R. J. ANKETELL.
Tropical Sanitation.—MR. A. R. GALBRAITH, M.Inst.C.E. (Ireland),
 L.R.I.B.A , F.R S.I.

DEMONSTRATORS.

Biology.—E. A. R. NEWTON.
Chemistry. —P. BABINGTON
Geology.—L. F. V. HOSKING.
Mathematics and Physics.—D. W. EVERSON.
Testing Officer and Mechanical Instructor Mining and Engineering.—
 W G. TOWNSEND, A M I.E A

BOARDS AND FACULTIES.
PROFESSORIAL BOARD.

Professors WHITFELD, (Chairman), MURDOCH, NICHOLLS, PATERSON, ROSS, SHANN, WILSMORE Associate Professors TATTERSALL, TOMLINSON, WOOD, and Messrs. E. de C. CLARKE and A. C. FOX.

FACULTY OF ARTS.

The CHANCELLOR, PRO-CHANCELLOR, and VICE-CHANCELLOR, *ex officio*, Professors MURDOCH, ROSS, and SHANN, Associate-Professor WOOD, and Messrs. A. C. FOX (Dean), F. ALEXANDER, G. IRVING, W. A. LAIDLAW, W. J. ROONEY, H. S. THOMPSON.

FACULTY OF SCIENCE.

The CHANCELLOR, PRO-CHANCELLOR, and VICE-CHANCELLOR, *ex officio*, Professors NICHOLLS, ROSS, PATERSON, WILSMORE, Associate Professors TATTERSALL and TOMLINSON, and Messrs. CLARKE (Dean), CARNE, LE SOUEF, ORTON, and THOMPSON, and Misses MILNER, MOIR, and REED.

FACULTY OF ENGINEERING.

CHANCELLOR (*ex officio*).
PRO-CHANCELLOR (*ex officio*).
VICE-CHANCELLOR (*ex officio*)
Professor WHITFELD (Dean). (also representing Land Surveyors'
 Licensing Board.)
Professor ROSS
Professor WILSMORE
Associate Professor TOMLINSON.
Associate Professor TATTERSALL.
Mr. E. de C. CLARKE.
Mr. P. H. FRAENKEL.
Mr. R. D. THOMPSON.
Mr. F. B. ALLEN, Director of Technical Education and School of Mines.
Mr. A. BAIRD.
Mr. W. CLARKE, representing Trades associated with Mining and
 Engineering.

FACULTY OF ENGINEERING—*continued.*

Mr. C. E. CROCKER, Manager, City of Perth Electricity and Gas Department.

Mr. E. A. EVANS, Chief Mechanical Engineer

Mr. A. R. GALBRAITH, City Engineer, Perth.

Mr. J. W. R. GARDAM, representing Institution of Engineers of Australia.

Dr. W. J. HANCOCK.

Mr. H T. HAYNES, City Engineer, Fremantle.

Major-General Sir J J TALBOT HOBBS, representative of Military Engineering.

Mr A. MONTGOMERY, State Mining Engineer.

Mr. W. G SUTHERLAND, representing Chamber of Mines.

Mr. W. H TAYLOR, General Manager Tramways and Electricity Supply.

Mr. J. THOMPSON, Engineer-in-Chief for the State

Mr. A. R. L. WRIGHT, representative of W.A Inst of Architects.

COMMITTEE OF DISCIPLINE.

The Vice-Chancellor and three members to be appointed under
Statute 19.

MEETINGS IN 1925.

SENATE.—March 16, April 20, May 18, June 15, July 20, August 17, September 21, October 19, November 16. December 14.

GENERAL PURPOSES COMMITTEE.—Tuesday preceding Senate.

FINANCE COMMITTEE.—Thursday preceding Senate.

PROFESSORIAL BOARD —March 5, April 9, May 7, June 4, July 9, August 6, September 10, October 8, November 5.

FACULTY OF ARTS meets on Tuesday of same week as Professorial Board ; FACULTY OF ENGINEERING on Thursday, and FACULTY OF SCIENCE on Wednesday of preceding week

TERMS IN 1925.

FIRST TERM.—March 16 to May 30.

SECOND TERM.—June 8 to August 15.

THIRD TERM.—August 31 to October 31.

UNIVERSITY HOLIDAYS IN 1925.

Good Friday and Easter Monday (April 10 and 13) , Degree Day ; Sports Day ; Anzac Day (April 25) ; May Day (May 4) ; and the Wednesday of Show Week (from 1 p m.).

UNIVERSITY EXAMINATIONS, ETC.

1925.

Jan   31   S.   Last day for entering for Matriculation and Supplementary Examinations.

Feb.   3   Tu.   Nominations close. Election by Convocation of two persons to be members of the Senate.

Feb.   19   Th.   Matriculation Examination begins.

Feb.   20   F.   Supplementary Examinations begin.

UNIVERSITY EXAMINATIONS, ETC.—*continued*.

1925.

Mar.	3	Tu.	Close of the Poll in the Election by Convocation of two persons to be members of the Senate.
Mar.	12	Th.	Class enrolment begins.
Mar.	16	M.	Lectures begin.
Mar.	31	Tu.	Entries close for May Public Examinations in Music (Theory).
May	1	F.	Public Examinations in Music (Theory).
June	8	...	Second Term begins.
July	24	F.	Entries close for August Annual Examinations in Engineering.
Aug.	12	W.	Entries close for October Public Examinations in Theory of Music.
Aug.	18	Tu.	Entries close for Amy Saw Scholarship.
Aug.	24	M.	August Annual Examinations in Engineering begin.
Aug.	31	...	Third Term begins.
Sept.	24	Th.	Public Examinations Music (Theory).
Oct.	1	Th.	Entries close for School Certificate Examinations.
Oct.	12	M.	Entries close for November University Annual and Honours Examinations.
Oct.	20	Tu.	Entries close for Rhodes Scholarship for 1926.
Nov.	2	M.	University Honours Examinations begin.
Nov.	12	Th.	University Annual Examinations begin.
Nov.	23	M.	School Certificate Examinations begin.

MEMBERS OF CONVOCATION.

New Members admitted during 1924 :—

Backhouse, Alfred F., B.A.
Burgess, Elizabeth L., B.A.
Burnside, Kennedy W., B.Sc.
Calderwood, Egerton C., B A.
Carpenter, Archibald John, B.A.
Cassidy, Ellen, B.A.
Culhnane, William Patrick, B.Sc. (Agric.)
Dawson, Dorothy Jean, B.A.
Dabb, John Henry M., M.A.
Egeberg, Harold, B.Sc. (Eng.)
Evans, John Henry, B.A.
Gallagher, Charles, B.E.
Gillett, Eric William, B.A.
Greayer, Isabella Alice, B.A.
Hammond, George, B.E.
Hartrey, Thomas A., Representative of Guild of Under-
    graduates.
Hawson, Robert Iles, B.Sc. (Eng.)
Hughes, Violet Isabel, B.A.
Hinde, Rose Winstanley, B.A.
Jackson, Ethel Margaret, B.A.
Jones, Irene Merle, B.A.
Kelsall, Dorothy K., B.A.
Kenworthy, Frank M., B.E.
Kilmartin, Thomas Francis, B.A.
Lambert, George Frederick, B.A.
Lavater, Eleanor S., B.Sc.
Lefroy, Elizabeth G., B.A.
LeSouef, Leslie Ernest, M.D.
Marmion, Robert James, B.Sc. (Adel.)
Mascl, Henry, B.Sc.
Morison, Frederick, B.E.
Murphy, Vernon Sherren, B.A.
Oldham, Ronald Arrol, B.E.
Payne, Dorothy Mary, B.A.
Rankin, Donald Hamilton, B.A.
Roberts, Ida Gwen, Mus. Bac.
Riches, John Haddon, B.Sc. (Agric.)
Spencer, Frank Ernest, B.A.
Summerhayes, Reginald, B.Sc. (Eng.)
Sinclair, Donald C., B.A.
Thornbury, Gilbert Frank, B.A.
Thornton-Smith, George J., B.E.
Wilcox, Clarice Marjorie, B.A.
Worboys, Walter John, B.Sc.

GRADUATES OF THE UNIVERSITY.

Admitted ad eundem gradum.   † Honorary Degree.

(H) Honours Degree

DOCTOR OF LETTERS.

Battye, James Sykes *   1923

MASTERS OF ARTS.

Adams, Henry Joseph*	.	...	1914	
Allen, Francis Bowen*	...	...	1913	
Clarke, Edward deCourcy*	...	..	1921	
Clarke, Edward Pattison William	...		1923	
Cooke, Henry James*	.	.	1913	
Corbett, Hilda Mary	...	.	1924	
Farquharson, Robert Alexander*	...		1913	
Fitzgerald, James Joseph*	...	...	1914	
Fowler, Hugh Lionel	.	.	1924	
Goldsmith, Frederick*	..	..	1913	
Goldspink, Frederick William*	.		1914	
Grimes, Charles Hugh Duffy*	...		1913	
Grove, John William*	.	.	1920	
Gunn, Hugh* .	...	...	1913	
Howard, Alma *	...	..	1913	
Hudleston, Cuthbert *	..	.	1913	
Irving, Edward Hamilton *		.	1913	

Mercer, Henry Frederick * ...	.	1913	
Montgomery, Alexander *	.	1913	
Moore, Robert Henry *	...	.	1913
Murdoch, Walter Logie Forbes *	.	1913	
McMahon, John Thomas *	..	.	1921
Parish, William John *	.	...	1913
Parr, Kate *	.	.	1913
Parry, Lionel Walpole *	..	...	1913
Parsons, Joseph *	.	.	1913
Poynton, Edward *	...	.	1913
Riley, Charles Owen Lever *		1913	
Stoneman, Ethel Turner *	...	..	1919
Taylor, David Gordon	..	..	1919
Thompson, Henry Sherman		..	1920
Wade, Gladys Irene	..	...	1919
Walter, William Ardagh Gardner *		1913	
Wright, George Herbert	.	..	1915

BACHELORS OF ARTS.

Abramovich, Dora	..	...	1920
Abramovich, Suzane ...	...	...	1918
Ahern, John Joseph ...	..	.	1923
Alcock, Eric Roy	.	...	1924
Allen, Mavis Lilian Bowen (H)	.		1919
Andrade, Evelyn (H)	..	.	1917
Anketell, Nellie	.	...	1918
Archdeacon, Sylvia Alice	...	.	1920
Armstrong, Isobel Nowel (H)		.	1918
Backhouse, Alfred Frank	...	.	1921
Barclay, Dorothy May (H)	..	.	1919
Battye, Marjorie Kathleen	.	.	1923
Beart, Kathleen Mary		.	1923
Beauchamp, Muriel Marguerite		...	1917
Bell, Hughina	..	.	1924
Brady, Frederick George Holland	...		1920
Bradshaw, Francis George	..	...	1924
Brown, James Viveash	...	...	1924
Browne, Maurice Anthony*		..	1913
Buchanan, Richard	..	...	1924
Bull, Maud Frances	..	...	1922
Bull, Charles Ripley (H)	...	...	1923
Burgess, Elizabeth Lashbrooke		..	1921
Burnside, Hilda Jane	...	...	1922
Calderwood, Egerton Charles		..	1921
Caldwell, William	..	..	1916
Campbell, John Hollis	..	.	1923
Carpenter, Archibald John	..	..	1921
Cassidy, Ellen	...	...	1921
Chapman, Reginald Eugene...		...	1922
Clarke, Dorothy Frances	...	...	1923
Clement, Dixie Paumier *	...	...	1913
Cockshott, Francis Preston	..	...	1920
Coleman, Ernest Albert *	...	..	1913
Colgan, Katie ..	...	...	1922
Collins, Monica Francis	...	..	1920
Collins, Douglas Herbert	...	...	1923

Colliver, Lynda May	.	...	1923
Constantine, Frank	..	..	1923
Cooper, Georgina Gertrude	..	...	1919
Copley, Leslie (H)	.	...	1918
Corbet, Margaret Eva	.	...	1920
Corr, Sydney Margaret	...	...	1917
Crossley, Ralph George	..	...	1924
Cullity, John Michael (H)	..	...	1917
Curran, Ethel *		..	1913
Dabb, John Henry Michael *		...	1921
Darker, Evelyn Margaret (nee Hall)*			1913
Davies-Moore, Fritz	..	...	1916
Dawson, Dorothy Jean		...	1921
DeBaun, Albert John		..	1916
Deeble, Beatrice Marion (H)		...	1919
Demasson, Stanley Gordon	..		1923
Dickson, Lorna Ferrier		..	1920
Dods, Christina Nisbet		..	1924
Dowley, Edmund Power *	..	.	1916
Downing, Talbot Albert Walls		...	1923
Dowson, Gwendoline Cowley (H)		...	1923
Drummond, Olive Jean Maxwell (H)			1919
Dunn, Mary Frances	...	...	1922
Dunne, James *	..	...	1921
Edmiston, Edith Marion (H)		...	1916
Evans, John Henry	..	...	1921
Fairweather, Margaret Gardiner (H)			1916
Farmaner, Eileen Violet	...	...	1924
Fielman, Herbert Bernard (War			
Degree)	..	...	1922
Ferguson, Edna Elizabeth Esme		...	1923
Flynn, Mary Josephine (H)		...	1924
Fraser, Archibald	..	..	1918
Freedman, David Isaac *	...	...	1913
Garrett, Svea Brita (H)	...	...	1920
Gavan-Duffy, William Charles Joseph			1923
Gibson, Marion	...	...	...	1922

BACHELORS OF ARTS—*continued.*

Gilbertson, Dora May	1924
Gill, Violet May (H)	1917
Gillett, Eric William (H)	1922
Gladstones, Harold Ernest	1924
Gordon, Kathleen May	1922
Gosset-Tanner, Archibald Emilius *	1913
Gracie, Eva Agnes	1918
Greayer, Isabelle Alice	1921
Green, Joseph	1924
Greenhill, John Cooper (H)	1920
Hamilton, Vivienne	1922
Harms, Wilfred Arthur	1920
Harris, Merab	1923
Harry, Gwenyth Isobel (H)...	1919
Hartrey, Thomas Augustine (H)	1924
Hayward, Adrian Meredith	1923
Heaney, Gladys Edith Sculthorpe ...	1920
Henville, Rosabelle Charlotte	1923
Hetherington, John	1923
Hill, Daphne Alice (H)	1916
Hinde, Rose Winstanley	1921
Hodges, Marcia Irene	1923
Hope, Mary Kathleen	1923
Horne, Edith Margaret (H)	1922
Houghton, Bertha Emily (H)	1916
Howell, Annie	1918
Howieson, Jack	1923
Hubback, Caroline Jane Mary	1913
Hughes, Violet Isabel	1921
Hunter, Beryl Aileen Francis	1924
Hurman, Edith Myra (H)	1917
Irvine, Charlotte Isobel	1924
Jackson, Ethel Margaret	1921
Jamieson, Florence Margaretta	1920
Johnson, Frank Walter	1924
Johnson, Frederick Henry Allen	1924
Jones, Norman	1922
Jones, Lucy Prynn (H)	1919
Jones, Irene Merle	1921
Jones, Marion Prynn	1920
Kelsall, Dorothy Kathleen ...	1921
Kilmartin, Thomas Francis	1921
King, Margery Ruth	1923
Kitto, Annie Rachel Eileen (H)	1923
Lambert, George Frederick	1921
Larrad, Newman Ludovic	1922
LeCheminant, Thomas John	1922
Lefroy, Elizabeth Grace (H)	1923
Locke, Gladys Rosalie	1920
Lynch, Marie Josephine	1922
Lyon, Hugh Pearson Dunlop	1922
Lyon, Janet Gillespie	1923
Lyon, Pearson*	1913
MacLeod, Robert Mackintosh	1922
Magill, Elsie Adeline	1920
Marten, Marjorie Alice Helene	1924
Martin, Jessie Welsh	1923
Masel, Alec	1918
Matheson, Cathleen Thelma...	1923
Matheson, Donald James ...	1918
Mawby, Ivy Elizabeth	1924
Mayne, Helen Helga.	1923
Mayrhofer, Guido Saverio Carlo (H)	1917
Mitchell, Stella Annie	1924
Morrow, Christine Turner ...	1924

Mortlock, Doris Joyce	1923
Murphy, Vernon Sherren	1921
McKecknie, Roy Alexander	1917
McKnight, Marjorie	1920
McLachlan, Margaret Isabel	1923
McNamara, James Onward..	1917
Moir, Madeline Nellie	1920
Montgomery, Stephen King (H)	1917
Moran, Kathleen Mary	1920
Napier, Carrie Margaret	1923
Negus, Oscar Joseph	1924
Nevile, Roy Vivian	1924
Newton, Violet Dorothy	1920
Nicholls, Leslie Herbert*	1913
Nicholson, Anna Mabel (H)	1918
Nicholson, Cicely Ena	1922
Noble, Winsome Barbara	1923
Nowotny, Henry Richard	1919
O'Brien, Eileen Dorcas (H)	1919
Ockerby, Marjorie	1924
O'Gorman, Michael Martin ...	1920
Orton, Allen Arthur	1921
Owen, Launcelot	1921
Parry, Alice	1922
Payne, Louise Mary Gwythyr *	1917
Payne, Dorothy Mary	1921
Pfister, George Arnolde (H)	1918
Pfister, Hilta Ines (H)	1920
Philip, Margaret Forbes	1920
Potts, Ethelwyn *	1913
Prendergast, George Luke (War Degree)	1920
Rahill, Philip Aloysius	1923
Rance, Ellen	1924
Rankin, Donald Hamilton *	1924
Reid, Aileen Mary	1923
Reid, Alexander James	1924
Reymond, Agnes	1922
Riley, Catherine Pauline *	1914
Robertson, Eva	1922
Robertson, Thomas Logan	1924
Robertson, Jack Gray (H)	1917
Robertson, Beryl Merton	1922
Robinson, Katherine *	1913
Rooney, Marjorie Lorna	1922
Sanders, Harold William * ...	1916
Scurry, Olive May	1924
Sedgman, Florence Edna (H)	1919
Shann, Edward Owen Giblin *	1913
Shearer, Jack	1918
Shine, Kathleen Mary	1918
Shortte, Renira	1922
Shotter, Barbara Mary	1922
Simpson, Louisa May	1924
Smith, Alfred	1924
Smith, Alice	1922
Smith, Adeline Rutherford Wesley *	1921
Smith, Rachel	1918
Spencer, Frank Ernest	1921
Stables, Hubert Taylor	1919
Staples, Thomas Archibald Francis	1922
Steadman, Olive Beryl (H)	1918
Sten, Thomas (War Degree)	1923
Stephens, Lillian Mary Theakston *	1918
Stevens, Elsie Mabel	1918

BACHELORS OF ARTS—*continued.*

Stevens, Mary Oakden	1919	Walton, Gertrude Mary *	.	1914
Stoneman, Ethel Turner (H)	1916	Walton, John . ..	.	1923
Street, Ida Alice	1919	Wauchope, Olive .	.	1920
Street, Ethel Lincoln	1923	Wearne, Gladys Evelyn	.	1922
Summers, Vera Ada (H)	1920	Weickhardt, Sylvia Gladys		1920
Tannock, May Ramsay	1916	Whitehorn, Alan Leslie*		1914
Teasdale, Myrtle .	1923	Whitfield, Enid Castieau		1923
Tennant, Jessie Marquand	1924	Wilcox, Clarice Marjorie		1921
Thompson, Rose (H) ..	1919	Williams, Owen William		1921
Thompson, Florence Mary Rose	1924	Williams, Mary Constance	.	1924
Thornbury, Gilbert Frank .	1921	Williamson, Arthur Thomas		1923
Trounce, Allan McIntyre (H)	1917	Wilson, James Belth *		1918
Turvey, Phyllis May	1923	Woodlock, Edmund Sabas	.	1916
Twel's, Alice Amelia	1924	Worner, William Gordon		1923
Vincent, Violet Harriet	1920	Wright, Amy Ruth		1923
Von Bibra, Elizabeth Bertha	1917	Young, Mary Teresa		1918

DOCTORS OF SCIENCE.

Anderson, Carl Phillip Gunnar †	1914	Larcombe, Charles Oswald George		1923
Bateson, William † .	1914	Ross, Alexander David *	.	1913
Campbell, William Wallace †	1922	Simpson, Edward Sydney		1919
Dakin, William John *	1913	Waller, Augustus Désiré †	..	1914
Dyson, Sir Frank Watson †	1914	Walther, Johannes † .		1914
Haddon, Alfred Cort †	1914	Wilsmore, Norman Thomas Morti-		
Hancock, William John †	1924	timer * .		1913
Herdman, William Abbott †	1914	Woolnough, Walter George *	.	1913

MASTERS OF SCIENCE.

Boas, Isaac Herbert	1916	Thompson, Roland Dale	.	1922
Ridgway, Isaac Althorp *	1913	Tomlinson, Alfred * .		1914
Tattersall, George * .	1913	Wilsmore, Leonora Jessie *		1913

BACHELORS OF SCIENCE.

Baldock, Albert Leslie	1922	Henzell, Linley Isaac		1918
Barnes, Helena Mary .	1924	Haseltine, Augustus Frederick *	..	1913
Barclay, Dorothy May .	1924	Hill, David Clarence John .		1922
Baxter, Reginald Robert (H)	1917	Illidge, Ernest Henry (H) .		1921
Burnside, Kennedy Whitchell (H)	1923	Jackson, Ada Acraman	...	1924
Cairns, John Edwin Inghston	1923	Jenkinson, Alfred Leigh ...		1923
Campbell, John George Carnegie	1923	Jewell, Florence Maud (H) .	.	1916
Cohen, Wilby Edison	1924	Jutson, John Thomas ..	.	1920
Compton, George Spencer (War		Kahan, Raoul Robellaz (H) ..		1916
Degree)	1923	Kline, James Allen Colin		1923
Cummins, John Edward	1923	Lavater, Eleanor Swindells (H)	.	1922
Dakin, Catherine Mary Gladys *	1914	Lee, Thomas Nelson ..	...	1915
Davis, Ray (H) . . .	1920	LeSouef, Mildred Hageneur	..	1924
Drummond, Lois Maxwell	1924	Mackey, Maxwell Arthur (H)	.	1924
Edmiston, Margaret Emma	1919	Marmion, Robert James * ..		1919
Fitzgerald, James Joseph	1916	Masel, Harry . . .	...	1921
Fordham, Mahalah Glen Clarke ..	1920	Milner, Dorothy Frances (H)	...	1924
Fowler, Russell Aubrey .	1920	Mitchell, Una Hayston ..	.	1922
Gawler, Isabel Marion	1922	Mitchell, Allan Ernest .	.	1920
Griffiths, Norman	1922	Montgomery, Stephen King (H)	.	1917
Harms, Ivo Alfred	1922	More, William St Barbe ..		1922
Hayman, William George Inglis .	1922	Murphy, Cyril Morton ...	...	1923

BACHELORS OF SCIENCE—*continued.*

Newbery, John Bull ..	.. ...	1919
Orton, Allen Arthur (H)	.. ...	1919
Orton, Eric Charles ...	... ...	1924
Parr, John * ..	... ...	1913
Parr, Kate Isabella ..	. ...	1924
Paterson, John Waugh *	. ...	1913
Pearson, Henry Ernest *	. .	1913
Piper, George (War Degree)		1922
Pollard, Frank Dowland	.. .	1916
Prowse, Vera McNeilance	.. ..	1920
Randell, Gerald Hamlin	... .	1917
Robinson, Katherine	.. ..	1917
Ross, Euphemia Welch *	..	1914

Rotenberg, Dora	. ... ..	1923
Saw, Walter William .	... ...	1922
Shearer, John (H) ..	. ...	1921
Shelton, William Ernest	... ...	1918
Shields, William Herbert *	... ...	1913
Smith, Alice ..	... ...	1924
Somerville, John Laird (H)	..	1919
Stevens, David *	. .	1913
Stockwell, Fred Clarence	... ...	1918
Tulloch, John	... ...	1920
Worboys, Walter John (H)	.	1922
Potts, Roy Edred ..	.. ..	1924

BACHELORS OF SCIENCE IN ENGINEERING.

Braithwaite, Henry Norman	...	1920
Colgan, James Bolan...	... ..	1920
Dempster, Andrew Marsden Gresham		1920
Douglas, Kenneth William ...	.	1922
Egeberg, Harold	... ...	1921
Hall, Redvers Harry Kitchiner	...	1922
Hawson, Robert Iles	... ...	1921

Leach, John Digby ..	. .	1922
Maguire, Thomas Hector		1920
Maw, Frederick Arthur Lister	..	1922
Pozzi, Nino James	... ...	1920
Pym, Lisle Angelo	.. ...	1922
Summerhayes, Reginald	.	1921

BACHELORS OF SCIENCE IN AGRICULTURE.

Armstrong, John Taylor (War Degree)	..	1923
Baron-Hay, George Kingston	...	1922
Cullinane, William Patrick	...	1921
Jones, Kenneth Edmund (H)	.	1921

Lapsley, Ronald George	. .	1923
Riches, John Haddon	.	1921
Sharp, Cyril Denton	..	1922
Teakle, Laurence John Hartley	...	1923

MASTER OF ENGINEERING.

McQueen, Neil *   1913

BACHELORS OF ENGINEERING.

Albert, Norman Murray	.. ...	1920
Baird, Adam *	... ...	1916
Child, Henry Adair ...	... .	1917
Clarke, Stanley Anthony	.. ...	1924
Cullity, Michael Patrick	... ..	1920
Cullity, Thomas	. ..	1919
Ellbeck, Tom ...	. .	1917
Fernie, Norman	.. .	1923
Fraenkel, Poul Hermann * ...	...	1916
Gallagher, Charles	.. ...	1923
Grace, Edwin Burton Petherick	.	1923
Griffiths, Herbert Millett	...	1921
Haddy, Alfred Steve	... ...	1924
Hammond, George ...	..	1924
Henzell, John Sithern (H)	.. ..	1917
Jones, Eric Edmund	.. ...	1923
Kenworthy, Frank Morrison	...	1922
Kerr, Charles Frederick	... ...	1922
Martyn, Athelstan Markham *	..	1914
Middleton, Howard ...	... ..	1924

McCullough, William Alexander (H)		1917
Morgan, Cyril Phillips	... ...	1920
Morison, Frederick Laird Woodward		1922
Norton, George Sidney James	...	1919
O'Brien, Edward Thomas Stuart * ...		1918
Oldham, Ronald Arrol	... ...	1922
Rudeberg, William Percival...	...	1924
Somers, Ewart	.. ...	1923
Stewart, John Maurice	... ...	1924
Stoddart, Eric William	... ..	1920
Stoneman, Alexander	... ...	1924
Sturkey, James Robert	.. ...	1924
Tindale, Edward * ..	... ...	1913
Thornton-Smith, George James	...	1921
Tobias, Ernest Rhys	...	1920
Turnbull, Edmund George *		1913
Whitfeld, Hubert Edwin * ...	...	1913
Wright, Peter Herbert	... ...	1924
Young, William Henry * ...	...	1913

DOCTORS OF LAWS.

Forrest, The Right Hon. Sir John † 1916
Hackett, The Hon. Sir John Winthrop † 1914
Hobbs, Major-General Sir Joseph John Talbot † 1921

Parish, William John * 1914
Reichel, Sir Harry Rudolph † ... 1914
Riley, The Most Reverend Charles Owen Leaver † 1922
Smith, James Walter * 1913

BACHELORS OF LAWS.

Battye, James Sykes * 1917
Courtney, Richard Edmond * .. 1917
McDonald, Ross * . . 1914

Mills, John Brier * 1914
Robinson, Edgar * 1914
Townshend, Samuel Edward * ¶.. 1914

DOCTORS OF MEDICINE.

LeSouef, Leslie Ernest * . . 1924
Martin, Albert Edward * . . 1913

Webster, Alfred * 1914

BACHELORS OF MEDICINE.

Cantor, Stanley Jacob * 1913
Jull, Roberta Henrietta Margaretta (nee Stewart)* 1913
Saunders, John Harry * . . 1913
Stewart, James Edmund Fergusson * 1913

Teague, Harold Oscar * 1913
Thorp, Charles Gabourel * ... 1913
Trethowan, William * 1913
Tymms, Herbert George * 1913

BACHELOR OF SURGERY.

Tymms, Herbert George * ... 1913

BACHELORS OF MUSIC.

Hardwick, Haydn Keeton * ... 1918
Roberts, Ida Gwen * .. . 1921

Summers, Joseph * 1913
Wibberley, Brian * 1914

UNIVERSITY DIPLOMA IN AGRICULTURE.

Adams, Arnold Barker . . 1923
Cullen, William Dermot . . 1922
Doscas, Apollo Ernset . 1919
Lyon, Ian Donald . .. 1924

Oldham, Frederick Schell 1920
Owen, Raymond Cecil 1924
Throssell, Gerald Ledsam 1924

UNDERGRADUATES ATTENDING LECTURES IN 1924.

FACULTY OF ARTS.

Abramovich, Dora.
Ackland, Harold George.
Adams, Robert James.
Adam, Harold Atwell.
Adlard, John Clare
Ahern, John Joseph.
Alcock, Cecil Clyde.
Anderson, Margaret Helen
Anderson, George Macaulay.
Andrews, Evelyn Cecilia.
Asquith, Laurel Loys.
Ayton, George Oliver.
Baker, Gladys Rosina.
Bailey, Harold Walter
Beere, George Butler.
Bennett, Donald Alan.
Bennett, Margery Florence.
Bernasochi, Mary Rose
Bernard, Miriam
Berthold, Francis
Birkhead, Vera.
Birchall, Violet Beatrice.
Box, Victor Fanshaw Hamilton.
Bousfield, Ilma Alice Lowman.
Bowen, Kenneth Reginald
Boylen, Antoine Jean
Brehaut, Freda Olga.
Brownfield, Stella
Bracks, Margaret
Bray, Doreen Ella
Broadhurst, Marjorie.
Browne, Gordon Everard.
Bumstead, Alan
Budgeon, John Cliford
Burnside, Kennedy Witchell.
Burnside, Beatrice Adeline.
Bugg, Mildred Fannie.
Burgess, Elizabeth Lashbrooke.
Cairns, John Edwin Inghston.
Cameron, Barbara Marshall.
Cameron, Gilbert.
Carne, Clifton Jenkyn
Carlin, Edna Brooke
Carlin, Jessie Bramwell
Cheflins, Jessie Eversley.
Collins, Douglas Herbert.
Constantine, Marjorie Olive
Costello, John David
Cowcher, Frances Kathleen Louisa.
Cowden, Roderick Brooke.
Cresswell, Isabella Evelyn.
Crossley, Ralph George.
Currie, Thomas Eric.
deLacter, Martial Hippolyte Richard.
deMamiel, Irene Gertrude.
Demasson, Stanley Gordon
Dennis, Evelyn May.
Devine, Elleen Monica.
Dods, John Murray Nisbet

Downey, Rodney Kendall.
Dunn, Mary Francis
Ellershaw, Barbara Phyllis.
Ellershaw, Beatrice Eulalie
Evans, Evelyn Ada.
Fabre, Jessie Amelie Nellie
Fyfe, Maynie
Gardham, Lily.
Gardham, Marion
Gardiner, Marion Elizabeth
Geddes, Jack Carlton
Getty, Jessie
Gillan, Christina
Glauert, Ludwig
Gowans, Urban Gregory Joseph
Grace, Roy William Sidney
Grasby, Hannah Catton
Greaves, Norma.
Green, Thelma Julia.
Grice, Charles Henry.
Grogan, Eileen
Grosvenor, Nell Rudolph
Grove, Kenneth Dale
Halliday, Chrystal Isabel
Halliday, Harold Robertson
Hamilton, Jean Isabel
Harris, Merab
Hartrey, Thomas Augustine
Hatfield, Kenneth Watts
Harrison, Lillian Mary.
Henry, John James Fraser.
Higgins, Grace Isabel
Hill, Daphne Alice.
Hodges, Marcia Irene.
Hosking, Lucy Florence Victoria.
Honner, Hyacinth Ralph
Hoad, Hester Marian
Howie, Duncan
Horne, Edith Margaret
Hope, Dorothy Francisco.
Horsfall, Margaret Liddell Officer.
Hurst, Marion
Ick, Mary Noel
Jackman, Doris Harding
James, Lucy Gwenyfred Senior.
Johnson, Frederick Henry Allan
Johnston, Owen Harbinson
Jones, Lucy Florence
Jones, Ena Caroline
Kay, Agnes
Kealy, Veronica Margaret Mary
Keane, John Christopher
Kenafick, Kyrie Joseph
King, Herbert Ernest.
King, Agnes
King, Freda May
Kingston, Veronica Brigid.
Knowles, Violet May.
Lander, Francis Eleanor.

FACULTY OF ARTS—*continued*.

Lavater, Eleanor Swindells.
Leach, John Robert
Le Cheminant, Thomas John
Liggins, Margaret Miro
Lipfert, Minna Maria
Little, Murray Giles
Lutz, Irma
Lynch, Marie Josephine
Major, Violet Grace
Malmberg, Hazel Alfreda
Marmion, Robert James
Marshall, Millicent May
Marshall, Alban Coryndon
Marshall, James
Martin, Allan
Matheson, Cathleen Thelma
Mayrhofer, Viola
Meckenstock, John August.
Miles, Enid May
Mills, Beryl Lucy
Mitchell, Stella Annie
Mitchell, Lillian Ivy
Moffit, Constance Pauline
Monson, Ronald Austen.
Moody, Margaretta Willcox
Morgan, Alice
Morrow, Annie Elizabeth Turner
Morrow, Christine Turner.
Moore, Ronald Greenslade
Moor, Victor
Moorhouse, Miles
Mortlock, Doris Joyce
Murdoch, Catherine
Muriel, Arthur John Chilvers
MacLennan, Jessie
McBride, Mollie Enid.
McCall, James Arthur.
McCulloch, Helen Isabel.
McDonald, Eileen Mary
McKeown, Sheelah Veronica.
McKinley, Bride Maureen.
McLaren, Stella
McLean, Mona
Nagel, Pearl Selina.
Napier, Carrie Margaret.
Nevile, Roy Vivian
Nicol, Flora Mary
Nolan, Patricia Mary
Ockerby, Marjorie
Oldham, Dorothy Russell
O'Neill, Mary Nora
Parr, Marjorie Eleanor
Pair, Kate Isabella
Paul, John Patrick.
Pearson, Edgar David.
Pepper, Arthur Stanley.
Phillips, Leslie William
Pirrett, William
Pollard, Frank Dowland
Power, Henry Ambrose

Preshaw, Allan Sydney.
Ramsay, Helen
Reedy, Francis Marcus
Rees, George Leslie Clarence
Reilly, Howard Vincent
Rhys, Gladys Claire
Richards, Gladys Ethel
Roberts, Bronwen Mereiden
Rosman, Harold.
Ross, Mary Alice
Rowe, Audrey Underwood.
Russell, Enid Marjorie
Sampson, Robert Douglas
Sanders, Colsell
Schonell, Frederick Joyce
Scott, Walter
Sharkey, Edith Josephine
Shaw, Dorothy
Sheppard, Ada Millicent.
Simpson, Phoebe
Simpson, Maurice
Simpson, Ellen Louise
Skewes, Linda Mary Catherine.
Smart, William Campbell.
Smith, Alfred
Smith, Emmie
Smith, William
Smith, Doris Winton
Smyth, Mary Elizabeth.
Spargo, Susy
Spigl, Dora Penelope
Stringer, Carolyn Jane
Swan, Margaret
Tangney, Dorothy Margaret.
Taylor, Daniel
Tiller, Adelphe Iris
Tipping, Mollie Mignon
Tobitt, Lucy
Tonkin, Edith Vera
Tulloch, John
Turvey, Phyllis May
Tweedie, Jean Isabel Dorrington.
Tymms, Enid Lucille
Urquhart, Carment
Vincent, Victor Seddon
Virtue, Jean Hamilton
Waterman, Florence Eleanor.
Walton, John
Wallace, John William MacNair.
Webster, Olive.
Whitfield, Enid Castieau.
Wiles, Joan Patricia
Williams, Eva Helen
Williamson, Arthur Thomas.
Wilson, Lilian Dunstan
Witty, John Malcolm
Woodhead, John Ramsden
Wood, Malvina Evalyn
Wolff, Rachel Marguerite
Wright, Esther Dorothy

FACULTY OF SCIENCE.

Adams, Arnold Barker
Allen, Karl Rutherford.
Allen, Clabon Walter

Allsop, Frederick Francis.
Ambrose, Theodore Rosslyn.
Andrews, Evelyn Cecilia.

FACULTY OF SCIENCE—*continued.*

Armstrong, Florence.
Baird, Alison Mary
Barclay, Dorothy May.
Bilston, Norman Sinclair.
Bolton, Arthur Leonard.
Booth, Edgar Hickman.
Bradshaw, Francis George.
Braithwaite, Henry Norman.
Builder, Geoffrey.
Burnell, Maisie Doreen.
Byrne, Kevin Patrick
Byron, Elwood.
Cariss, Hugh Gerard.
Carrigg, Clifford Gearin
Cawley, William.
Cohen, Wilby Edison.
Cullity, Maurice Joseph.
Davenport, Neil.
Dunne, Thomas Charles.
Edelman, Samuel.
Finucane, Kevin John.
Fortune, Cyril.
Francis, Olive Mary
Gauntlett, George
Gilbert, Thomas Miles.
Grogan, Frances Osborne.
Grove, John Lewers
Grove, Frank Fairbairn.
Halliday, William Henry.
Hayward, Lucie Andree
Hill, Arthur Dunleavey.
Hodgson, Ernest George.
Horgan, Nessie Lilian Helen.
Hosking, Frederick Kenneth.
Hosking, Jack Sargent
Howieson, Jack.
Huelin, Frank Edwin.
Joel, Neville Crownson.
Kent, Cyril Roy.
Kretchmar, Harry Herman.
Lamborne, Elizabeth Margaret.
Lawson, Ronald Vernon.
Le Souef, Mildred Hagenauer.
Lightfoot, Leonard Charles.

Lobstein, Joseph Lyonel.
Lyon, Ian Donald.
Martin, Nancy Whitworth.
Milesi, Angelo John.
McConnell-Brown Keith Cameron.
McKenna, Kenneth
McLeod, Hector
McMeikan, Alison Mary
Nadebaum, August John.
Nicholls, Aubrey Gordon
Nilsson, Fritjof
O'Connor, Bernard Alphonsus
O'Dea, Berenice Agnes
Ohman, Albert Frederick Sigurd.
Olds, Albert Colin.
Orton, Eric Charles
Owen, Edwin Cecil
Pierssene, Alfred Ray
Powell, Harley Robert
Prowse, Edgar Wylie
Rankine-Wilson, Theodore John.
Reath, John Lambert
Richardson, Keith Clifford.
Sampson, Noel Edgar
Samuel, George
Sedgman, Hugh
Sheard, Keith.
Shier, Frank Leonard
Shimenson, Joshua
Simpson, Mary.
Southern, Wilfred
Stremple, Edna Maie.
Terelinck, Rose Florence
Thompson, Vernon George.
Throssell, Gerald Ledsam.
Tuohy, Matthew William
Underwood, Eric John
Watson, Eric Mervyn.
Wild, Alick Stuart.
Williams, Basil.
Williams, Francis Arthur
Wood, Francis Waverley
Wright, Rupert Geoffrey.

FACULTY OF ENGINEERING.

Allsop, Allan Leonard.
Brady, Lyndon Vivian.
Bunning, Charles Robert.
Byass, Stanley Burton
Christian, Arthur Hugh.
Clifford, Timothy Patrick.
Connor, Geoffrey Milne.
Cooper, Keith Leo.
Cutt, Leonard Charles.
Dimond, Cyril Manners.
Forman, Francis Gloster.
Goss, Clifford Alec
Gray, David.
Gregson, Frederick.
Hargrave, John Harrison Osborne.
Hardwicke, Arthur William.
Herbert, William Murray.
Herlihy, Leslie John William.
Houghton, Rubin Frederick George.
Irving, Edward Heron.
Jukes, James Barcham.

Keating, Reginald John.
Kent, William Alexander.
Lambert, Austin Edmund.
LeMesurier, John Ross
Meredyth, Cyril Charles Colles.
Mosey, Frederick William.
Munro, Alan Hamilton
Munt, Victor Cranston.
Nicholls, Leslie Bakewell.
O'Donnell, Francis.
Park, Lewis Henry.
Paterson, Charles Searl.
Purser, Mark William.
Rathbone, Jack Barnard.
Rogers, Leslie John.
Sutherland, George Arthur.
Thrupp, Thomas William.
Turnbull, Raymond Ferderick.
Weaver, William Edward.
Wilson, Hugh MacLean.

LIST OF ENDOWMENT LANDS.

Twenty-three Crown Grants were issued to the Trustees of the University Endowment under the University Endowment Act of 1904, and these became the property of the University under the University Act of 1911. The following is a list of the lands so vested in the University:—

	a.	r.	p.
Subiaco—Swan Location 1715	95	0	0
Claremont—Swan Location 2106	36	0	0
Claremont—Swan Location 1366	7	0	0
Karrakatta—Swan Location 2105	172	0	0
Karrakatta—Swan Location 2120	67	0	0
Karrakatta—Swan Location 2119	44	0	20
Karrakatta—Swan Location 2121	10	1	10
Karrakatta—Swan Location 2103	608	0	0
Karrakatta—Swan Location 2513	2	2	3
Karrakatta—Swan Location 2104 .. .	64	0	0
Cockburn Sound—Location 549 . ..	2,300	0	0
Cockburn Sound—Location 550 ..	580	0	0
North Fremantle—Location 174	132	2	6
Pingelly—Lots 38 and 39	0	2	38
Pingelly—Lot 158	3	2	12
Wagin—Lot 154	2	2	0
Wagin—Lots 33, 34, 35 . .	0	3	0
Broome Hill—Lot 263	3	2	15
Cuballing—Lots 37 and 79	1	1	4
Cuballing—Lots 74 and 46	2	0	0
Katanning—Lot 412	4	1	35
Mount Barker—Lots 117 and 118	7	3	29
Narrogin—Lots 57, 58, 59, 60, 61	1	1	5

The total area of the 33 lots is about 4,146 acres. Thirteen lots, comprising an area of 4,118 acres, are within 10 miles of the General Post Office, and 20 lots, containing an area of about 28 acres, are in Country Townsites.

STATUTES OF THE UNIVERSITY.

(For other Statutes see Calendar for 1924.*)*

STATUTE No. 12.—ACADEMIC DRESS.

In Section 2, after the word *"Doctors"* delete the words "black stuff or silk gown as for Bachelors but," and substitute therefor the words "scarlet stuff or silk gown."

STATUTE No. 15.—GRANTING AND CONFERRING OF DEGREES.

(As amended by Senate and Convocation in 1924.*)*

1. Students who have fulfilled all the conditions prescribed for any degree or diploma may on presentation be granted that degree or diploma by the Senate.

2. Graduates of any other University who have qualified under Statute No. 3 for admission to any degree may on presentation be granted that degree by the Senate.

3. The Senate after report from the Professorial Board may, on presentation or may on its own motion without presentation, grant an honorary degree to any person for distinguished service within or without the State.

4. On the report of the Professorial Board the Senate may issue to a student any certificate to which he is entitled. Such certificates shall be signed by the Vice-Chancellor.

5. Presentations under Sections 1 and 2 shall be made by the Dean of the Faculty to which the degree or diploma belongs or by his deputy.

Presentations under Section 3 shall be made by the Vice-Chancellor or by his deputy.

The candidate shall attend on presentation unless the Senate is satisfied that such absence is unavoidable, in which case the degree or diploma shall be granted *in absentia.*

The presentation shall be made in such one of the following forms as may be applicable:—

(a) *Form of presentation under Section* 1:—
Mr. Chancellor, Mr. Pro-Chancellor, and Members of the Senate of the University, I present to you for admission to the degree or diploma of ..   .   . .in this University A—B—.

(b) *Form of presentation under Section* 2:—
Mr Chancellor, Mr. Pro-Chancellor, and Members of the Senate of the University, I present to you for admission *ad eundem gradum* as.   in this University A—B— (insert name of candidate and title of degree in his own University) of the University of.... ... .

(c) *Form of presentation under Section* 3:—
Mr. Chancellor, Mr. Pro-Chancellor, and Members of the Senate of the University, I present to you for admission to the Honorary Degree of   .. . . .   in this University A—B—.

In the unavoidable absence of a candidate the above forms shall be modified by striking out the words "I present to you for admission," and inserting in lieu thereof "I submit to you for admission *in absentia*," and by inserting after the words "this University" the words "the name of."

6. The degree or diploma shall on behalf of the Senate be conferred by the Chancellor at a meeting of the Senate in such one of the following forms as may be applicable:—

(a) *Where the degree or diploma is under Section* 1:—
By authority of the Senate of the University of Western Australia, and in virtue of my office as Chancellor (or acting on behalf of the Chancellor), I now confer the degree or diploma of... . ... .. in this University upon you A—B— (or upon A—B—*in absentia*).

(b) *Where the degree is under Section* 2:—
By authority of the Senate of the University of Western Australia, and in virtue of my office as Chancellor (or acting on behalf of the Chancellor), I now confer the degree of .... *ad eundem gradum* in this University upon you A—B—(or upon A--B—*in absentia*).

(c) *Where the degree is under Section* 3:—
By authority of the Senate of the University of Western Australia, and in virtue of my office as Chancellor (or acting on behalf of the Chancellor), I now confer the Honorary degree of..... ....in this University upon you A—B— (or upon A—B—*in absentia*).

7. Before a degree or diploma is granted the candidate shall sign the following declaration before the Vice-Chancellor or his deputy, or before some person first approved by the Vice-Chancellor.

> I hereby promise that I will maintain the rights and privileges of the University of Western Australia, and that I will endeavour at all times to uphold its dignity.

The declaration shall be written and signed in the Register of Graduates, or on a separate form, as may be required by the Vice-Chancellor.

8. The Register of Graduates shall be in the custody of the Vice-Chancellor, and contain the name and address of every person to whom a degree or diploma has been granted, and particulars of each such degree or diploma.

The Register shall not, except for the purposes of Section 9, be altered or amended unless to correct some manifest error or omission which the Senate directs to be so corrected.

No person shall be deemed to hold a degree or diploma of the University unless the name of such person and the degree or diploma is recorded in the Register.

9. The Chancellor may, on recommendation of the Senate, revoke any degree or diploma which has been granted to any person if such person is convicted of felony or of any indictable misdemeanour in any part of the world, or the name of such person has in any part of the world been removed by a properly constituted authority from any official register or roll of members of the profession to which he belongs, and thereupon the name of such person shall be struck off the Register of Graduates.

On the recommendation of the Senate the Chancellor may, at any time thereafter on good cause being shown to the satisfaction of the Senate, restore to any person a degree or diploma which has been revoked as aforesaid, and direct the name of such person to be restored to the Register of Graduates.

STATUTE No. 16.—GUILD OF UNDERGRADUATES.

Subject to approval by Convocation, in line two of Section 2, delete the words "of each year."

STATUTE No. 19.—DISCIPLINE.

(*Subject to approval by Convocation.*)

1. There shall be a Committee of Discipline consisting of the Vice-Chancellor and three Professors or Associate Professors elected annually by the Professorial Board to control the discipline of the students of the University. At any meeting of this committee three members shall be a quorum.

2. For the purposes of this Statute all persons enrolled as entitled to attend any lecture or class or who are entered for any examination in the University, and also all persons attending any University ceremonial, being undergraduates or graduates not of the rank of Doctor or Master, shall be deemed to be students of the University.

3. Subject to the approval of the Professorial Board, the Committee of Discipline may make rules for the conduct of students on the premises of the University or while attending lectures or classes or examinations or any University ceremonial, whether such lectures, classes, examinations, or ceremonial be held on the premises of the University or elsewhere.

Any breach of or failure to observe any such rule shall be deemed a breach of discipline.

4. Any student who is guilty of behaviour on or off the premises of the University which tends to cause offence or annoyance to the general body of students, or to the students attending any lecture or class or examination, or to bring discredit upon the University, shall be guilty of a grave breach of discipline hereinafter called misconduct.

A student is also guilty of misconduct if he is persistently guilty of breaches of discipline, or in the opinion of the Committee of Discipline is flouting its authority or that of the teaching staff or any member of the teaching staff of the University.

The decision of the Committee of Discipline, or on appeal the decision of the Professorial Board, whether the behaviour of a student is or is not misconduct, shall be final and conclusive.

5. The Vice-Chancellor at his own discretion may convene meetings of the Committee of Discipline, and he shall convene a meeting of the committee upon the written request of two of the members thereof.

6. The Committee of Discipline may, on its own motion or on complaint made to it, inquire into any alleged breach of discipline by or alleged misconduct of a student, and subject to an appeal to the Professorial Board, shall have power—

(a) to administer a reprimand, either in private or in the presence of a class attended by the student;

(b) to inflict a fine on the student not exceeding two pounds;

(c) to suspend the student temporarily from attending on any course of instruction in the University;

(d) to exclude the student from any place of recreation or study in the University for any period not extending beyond the current academic year; or

(e) to make a recommendation under Section 7, and pending the decision of the Professorial Board, to make an order excluding the student from the University and its precincts.

Every such decision of the committee shall be operative forthwith, and be at once reported to the Professorial Board, which may confirm, vary, or set aside the same.

7. The Committee of Discipline may recommend to the Professorial Board the expulsion of any student for misconduct, and the Professorial Board shall have the power to expel that student from the University. Such expulsion shall involve exclusion from all lectures and classes, from all examinations, from the use of the University Library, from the premises and precincts of the University, from the right to attend University ceremonials, and from all other privileges and amenities that the University extends to its members.

8. The Vice-Chancellor on complaint, or of his own motion, may punish a student for any breach of discipline by fine not exceeding twenty shillings, or by exclusion of any student from the University and its precincts, or any part thereof for twenty-four hours, or until the matter has been dealt with by the Committee of Discipline.

9. If a complaint is made that a student has been guilty of misconduct, the Vice-Chancellor may exclude such student from the premises and precincts of the University until the matter has been dealt with by the Committee of Discipline.

10. Every Professor or Lecturer may inflict punishment by fine not exceeding twenty shillings, or by exclusion from a class for not more than twenty-four hours, for any breach of discipline in his department that he does not consider sufficiently important to bring before the Committee of Discipline.

11. If, in the opinion of a Professor or Lecturer, any student has been guilty of any breach of discipline which the Professor or Lecturer thinks should be reported to and dealt with by the Committee of Discipline, he may exclude such student from his department until the matter has been dealt with by the Committee of Discipline.

12. Every fine shall be paid to the University Office within forty-eight hours from the time of its imposition.

Addendum.—The adoption and approval of the foregoing Statute shall involve the repeal of Section 7 of Statute No. 9 and of Section 1 (e) of Statute No. 11.

REGULATIONS.

MATRICULATION.

1. The examinations qualifying for Matriculation are the November School Certificate Examinations and a Supplementary Matriculation Examination held at the end of the Summer Vacation. The Supplementary Matriculation Examination is restricted (1) to candidates who have failed by a single subject to complete the requirements for matriculation at a School Certificate Examination, (ii) to University students who are required to pass in a subject or subjects at the Leaving Standard in order to comply with Section 7 of these Regulations. The subjects required for Matriculation in each Faculty are set forth below.

2. In order to qualify for Matriculation in the Faculty of Arts, candidates shall have passed at the Leaving Standard in—

    (1.) English.

    (2.) Another language.

    (3.) Two other subjects selected from the following list, of which at least one shall be selected from amongst the first eleven of this list—

1.—Latin.	10.—Mathematics.
2.—Greek.	11.—Applied Mathematics.
3.—French.	12.—Physics.
4.—German.	13.—Chemistry.
5.—Italian.	14.—Biology.
6.—Spanish.	15.—Geology.
7.—History.	16.—Agricultural Science.
8.—Industrial History and Economics	17.—Music.
9.—Geography.	18.—Drawing.

If Mathematics be not one of the subjects selected under (3), the candidate must have obtained a pass in that subject at the **Junior Standard.**

3. In order to qualify for matriculation in the Faculty of Science, candidates shall have passed at the Leaving Standard in—

(1.) English.

(2.) Another language.

(3.) Mathematics.

(4.) One other subject selected from the following list :—

1.—Latin.	9.—Geography.
2.—Greek.	10.—Applied Mathematics.
3.—French.	11.—Physics.
4.—German.	12.—Chemistry.
5.—Italian.	13.—Biology.
6.—Spanish.	14.—Geology.
7.—History.	15.—Agricultural Science.
8.—Industrial History	• 16.—Music.
and Economics	17.—Drawing.

4. Of the four subjects necessary at the Leaving Standard for Matriculation in Arts or Science, at least three shall be passed at one and the same examination and the remaining subject at any subsequent examination.

5. In order to qualify for Matriculation in the Faculty of Engineering, candidates shall have passed in—

(1) English.

(2) Another language.

(3) Mathematics.

(4) Applied Mathematics or Chemistry or Drawing B* or Geography or Geology or Physics.

(5) One other subject selected from the following list :—

1.—Latin.	9.—Geography.
2.—Greek.	10.—Applied Mathematics.
3.—French.	11.—Physics.
4.—German.	12.—Chemistry.
5.—Italian.	13.—Biology.
6.—Spanish.	14.—Geology.
7.—History.	15.—Agricultural Science
8.—Industrial History	16.—Music.
and Economics.	17.—Drawing.*

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* For the purpose of Matriculation, passes in both Drawing A and Drawing B shall be counted as a pass in one subject only.

Three of these subjects including Mathematics, shall be passed at the Leaving Standard.   Of the three subjects necessary at the Leaving Standard at least two shall be passed at one and the same examination and the remaining subject at any subsequent examination.

6.   No person qualified to matriculate in terms of the preceding sections shall become a matriculated student of the University until he has written his name in the Matriculation Register, and, in the presence of the Vice-Chancellor or a Justice of the Peace, signed the following declaration :—

> I promise to observe the Statutes and Regulations of the University as far as they concern me, and to pay due respect and obedience to the Chancellor and other Officers of the University.

7.   Before attending University lectures in Latin, Greek, French, German, or Mathematics, candidates for Degrees shall be required to have passed at the Leaving Standard at the School Certificate or Matriculation Examination in that subject, or to have attained at least a standard satisfactory to the University in that subject.   In the case of French and German candidates shall be required to have passed the oral test.

8.   Fees are charged for the Supplementary Matriculation Examination on the same scale as for the School Certificate Examination.

SPECIAL REQUIREMENTS AT MATRICULATION.

Before selecting subjects for Matriculation all candidates are advised to consider whether they may subsequently wish to enter a profession or become a member of an association or institution, in which the qualification for entrance is Matriculation in certain subjects at a recognised University. The following cases are examples in point :—

Chemistry.—Candidates should consult the requirements for admission of students prescribed by the Institute of Chemistry of Great Britain and Ireland. if they propose subsequently to enter for admission to the Institute.

Dentistry.—As from 1st January, 1925, candidates for the entrance examination in Dentistry for Western Australia shall be required to have passed in the following subjects at the Leaving Standard of the University of Western Australia:—

(1) English.

(2) Another Language.

(3) Two other subjects selected from the following list, of which at least one shall be selected from amongst the first ten of this list:—

(1) Latin.

(2) Greek.

(3) French.

(4) German.

(5) Italian.

(6) Spanish.

(7) History.

(8) Geography.

(9) Mathematics.

(10) Applied Mathematics.

(11) Physics.

(12) Chemistry.

(13) Biology.

(14) Geology.

(15) Agricultural Science.

If Mathematics and Physics be not selected under (3), the candidate must have obtained a pass in these subjects at the Junior standard.

Of the four subjects necessary at the Leaving Standard, at least three shall be passed at one and the same examination, and the remaining subject at any subsequent examination.

Engineering.—Candidates shouuld note the regulations for admission of students to the Institution of Civil Engineers (London), and also those of any University at which they might wish subsequently to follow an Advanced Course.

Surveying.—Candidates should consult the requirements prescribed by the Land Surveyors' Licensing Board of Western Australia. The Board has agreed to accept a pass in the following subjects at the Leaving Standard as equivalent to the Matriculation Examination prescribed in Section 5, Subsection (a), of the Board's regulations :—

English, Mathematics, and one of the following subjects : Applied Mathematics, Physics or Geology.

Law.—Latin and another language are usually prescribed, but candidates should consult the regulations of any University and of any Board under which they intend to qualify for this profession.

Rule 19 of the Regulations under the Legal Practitioners' Act of Western Australia provides that the preliminary examination for applicants for articles shall be the examination prescribed by the University of Western Australia for the School Certificate Examinations in the following subjects :—

        (a) English.
        (b) Latin.
        (c) Mathematics.
        (d) History.
        (e) One other subject selected from the following list :—
             Greek, French, German, Geography, Applied Mathematics, Physics, Chemistry, Biology, Geology, Agricultural Science.

Three of these subjects, one of which shall be English or another language, shall be passed at the Leaving Standard.

Medicine.—Candidates should study the regulations of the University at which they intend to study, and also the requirements of the General Council of Medical Education and Registration of the United Kingdom.

GENERAL REGULATIONS FOR DEGREE COURSES.

1. Students, before they enter on a course of study for a degree, must have passed the Matriculation Examination, or have obtained exemption from that examination, in accordance with the Faculty Regulations. Except in special cases, the minimum age for entrance to the University shall be 17 years.

2. Persons who have attained the age of twenty-five years may be admitted as matriculated students upon the production of evidence satisfactory to the Faculty concerned that they possess educational qualifications sufficient to enable them to proceed with the course that they propose to take. In all such cases the recommendation of the Faculty must be by a three-fourths majority, and must be approved by the Professorial Board. Students admitted under this proviso shall be eligible for Honours but shall not be eligible for prizes or scholarships. No matriculation certificate shall be issued under this regulation until the student has completed the first year towards a degree.

3. All intending students are required to submit applications for enrolment between 1st November and 1st March. Applications presented after the 1st March will be subject to a late fee of ten shillings, which may be remitted by the Vice-Chancellor on good cause being shown.

4. All students, before commencing a course of study in the University, shall consult the Dean of the appropriate Faculty concerning the choice of subjects, and the order in which they shall be taken. Students intending to proceed to an Honours Degree or to a Pass Degree, including a special subject or subjects for higher study, should also consult the Professor or Lecturer in charge of the special subject or subjects.

5. Where subjects are graded in relation to each other—
    (i.) No candidate may proceed to higher grades in any subject without having passed in the lower grades ;
    (ii.) No subject once taken at a higher grade shall be taken again at the same or a lower grade ;
    (iii.) Only one grade of any particular subject may be taken in the same year.

The Professorial Board may—

(a.) Define what subjects are graded in relation to each other for the purposes of this section ;

(b.) Dispense with the provision requiring lower grades to be passed before higher grades are taken, on the production of satisfactory evidence that the candidate is fit to take the higher grades ; and

(c.) Where such dispensation has been granted in the case of a candidate's major subject, define the conditions to be fulfilled to complete that major subject.

6.   In order to complete the course in any subject prescribed for any academic year, students—

(i.) If resident in the metropolitan area or other area served by an affiliated institution, shall be required to attend regularly the qualifying lecture and laboratory courses if any, to perform satisfactorily the prescribed class work, including exercises, essays and class examinations, and to satisfy the examiners at the University Annual Examination.

(ii.) If not resident in the metropolitan area or other area served by an affiliated institution, shall be required after enrolment at the beginning of the session to pursue their study of the subject over the same length of time as attendance at lectures would involve, to perform satisfactorily such exercises and practical work as may be prescribed, and to satisfy the examiners at the University Annual Examination.

7.   Until students have completed the prescribed course for one year they shall not be permitted to take any subject of any succeeding year, unless specially permitted by the Professorial Board (see Section 10).

8.   Notwithstanding any statement in the Faculty Regulations prescribing a definite number of academic years for the course for any degree, an evening student (or in special circumstances and with the approval of the Professorial Board, a day student) may distribute his course over a greater number of calendar years.

9. It is competent for the examiner in any subject to report that a candidate has " Passed with Distinction," who has attained in that subject in that year a standard much higher than that of the ordinary Pass. No " Honours " will be accorded to students except in the final year, where specially provided in the Faculty Regulations.

10. Notwithstanding anything in the above regulations it shall be competent for the Professorial Board under special circumstances to exempt any student from attendance at any class prescribed for graduation.

11. The Professorial Board may, on the recommendation of the Faculty or Board of Examiners concerned, require any student to withdraw from any course, or from the University if his work is found to be unsatisfactory. Any student may appeal to the Senate against a decision of the Professorial Board requiring him on the above ground to withdraw from the University.

12. As regards the order in which subjects shall be taken and the time at which examinations in them shall be held, the Professorial Board shall be at liberty to use its discretion.

13. Candidates submitting theses, for higher degrees, must submit relevant particulars on a form to be obtained at the University Office, and must observe the regulations prescribed by the Faculty concerned regarding the preparation and subsequent disposal of the work.

EXTERNAL STUDENTS.

1. Students who are proceeding to a Degree in the University and who have obtained exemption from attendance at classes by reason of their residence outside the metropolitan area, or other area served by an affiliated institution, shall be enrolled as External Students.

2. Such students before being admitted as External Students shall fulfil the following conditions :—

   (*a.*) They shall have matriculated in the Faculty in in which they propose to study.

   (*b.*) They shall have submitted to the University a statement showing the Degree to which they wish to proceed and the list of subjects which they intend to study, together with such other particulars as the University may require, and have obtained from the University a written statement that the proposed course of study has met with its approval.

3. Such students shall pursue their studies over the same length of time as attendance at lectures would involve and shall be subject to the same regulations as students who are attending lectures.

4. Such students shall attend the Annual Examinations at the University or at such other institutions affiliated to the University as may be from time to time approved.

5. External Students shall be residents within the State of Western Australia.

STUDENTS WHO ARE NOT PROCEEDING TO A DEGREE.

1. Students not proceeding to a degree may be permitted to attend a course in one or more subjects with the approval of the Faculty concerned. Any such Student who has not matriculated may be required to pass such preliminary examination as the Faculty may direct.

2. Except with the approval of the Faculty, no such student may enter upon a course later than one week after the commencement of lectures in that course.

3. Such students may present themselves for examination on completion of the course and be granted certificates if successful.

4. Except as provided above, such students shall conform to the General Regulations for Degree Courses.

EXAMINERS.

1. There shall be four Boards of Examiners in the University, namely, the Board of Examiners in Arts, the Board of Examiners in Science, the Board of Examiners in Engineering, the Board of Examiners for Matriculation and School Certificates.

2. The Boards of Examiners in the several Faculties shall consist of the Professors and Lecturers in charge of departments in the respective Faculties, and such other persons as shall be appointed by the Senate on the nomination made by the Professorial Board after report from the Faculty concerned.

3. The Deans of the Faculties shall act *ex officio* as Chairmen of the Boards of Examiners in the respective Faculties, and in the absence of the Dean at any meeting the members present shall elect as Chairman a Professor from amongst themselves.

4. Each Board of Examiners shall consider and report to the Registrar the results of all ordinary and supplementary examinations held in connection with the courses in its particular Faculty, except in cases where a thesis or dissertation is prescribed in the regulations. Reports shall be signed by the Chairman and by at least one other member of the Board, and the Registrar shall lay the same before the Senate and the Professorial Board at their next meetings.

5. The Board of Examiners for Matriculation and School Certificates shall be the Professors and Lecturers in charge of University departments, and such other persons as the Senate may from time to time appoint on the nomination of the Professorial Board. The Vice-Chancellor shall be *ex officio* Chairman of the Board of Examiners for Matriculation and School Certificates, and in his absence from any meeting the members present shall elect a Chairman from amongst themselves.

6. The Board of Examiners for Matriculation and School Certificates shall consider and report to the Registrar the results of each Matriculation Examination, and of all Examinations of lower standard which may be held by the University. Reports shall be signed by the Chairman and by at least one other member of the Board, and the Registrar shall lay the same before the Senate and the Professorial Board at their next meeting, and also, in the case of the School Certificate Examinations, before the Public Examinations Board.

7. Where it is provided in the Regulations that a candidate for any degree may submit a thesis or dissertation, the Senate shall from time to time appoint two or more examiners nominated after report from the Faculty concerned by the Professorial Board. These examiners shall severally examine the said thesis or dissertation, and shall report the result through the Faculty to the Registrar. The reports shall be signed by each examiner, and shall be laid before the Senate and the Professorial Board at their next meetings.

8. All reports on examinations shall indicate which candidates have passed with distinction, and which have attained the standard of the ordinary pass.

9. In all cases in which Fellowships, Studentships, Scholarships, Exhibitions, Prizes, or other awards are to be assigned by the University on the results of examinations, the examiners shall furnish the Registrar with the candidates' percentage marks for communication to the Professorial Board.

THE FACULTIES (GENERAL).

1.   For the purpose of giving instruction and of granting degrees there shall be three Faculties in the University, namely, the Faculty of Arts, the Faculty of Science, and the Faculty of Engineering.

2.   For the purpose of Section 17 of the University Act, and of admissions *ad eundem gradum*, there shall be Faculties in—

> Law,
> Medicine, and
> Music.

No instruction will be given in these Faculties until the Senate so determines, but graduates of other Universities may be admitted *ad eundem* to the following degrees :—

> Bachelor of Laws.
> Master of Laws.
> Doctor of Laws.
> Bachelor of Medicine.
> Doctor of Medicine.
> Bachelor of Surgery.
> Master of Surgery.
> Bachelor of Music.
> Doctor of Music.

3.   The Faculties shall consist of such members as the Senate, on the nomination of the Professorial Board, may from time to time appoint.

The Chancellor, Pro-Chancellor, and Vice-Chancellor shall be *ex officio* Members of every Faculty.

4.   Each Faculty shall nominate each year, through the Professorial Board, one of its members who is head of a University Department, for appointment by the Senate as Dean of the Faculty.   A Dean shall hold office for twelve months from the date of appointment, and shall be eligible for re-appointment.

5.   A Dean shall exercise a general superintendence over the educational and administrative work connected with his Faculty.   He shall act as Chairman at all meetings of his Faculty at which he is present, and in his absence the members then present shall elect a Chairman from amongst themselves.

6.   Each Faculty shall meet for the purpose of considering and reporting to the Professorial Board, or to the Senate through the Professorial Board, upon such subjects as have relation to the studies, lectures, examinations, and degrees in the Faculty,

and such questions as may be referred to it by the Senate or the Professorial Board.

7. All questions which come before any Faculty shall be decided by a majority of the members present and voting, and the Chairman shall have a vote and, in case of an equality of votes, a second or casting vote. No question shall be decided at any meeting unless at least one-third of the members of the Faculty be present in the case of the Faculties of Arts and Science, or one-fifth in the case o f the Faculty of Engineering.

3. Meetings of each Faculty shall be held at such times as may be required by the Dean, provided that a special meeting of any Faculty shall be called and held within one week of receipt of a requisition signed by at least three members of the Faculty and stating the purposes for which the meeting is required.

9. It shall be the duty of the Registrar to summon all meetings of the Faculties and to act as Secretary thereof. At least three days' notice of any meeting shall be given.

DEPOSITS FROM STUDENTS.

1. *First-year and non-matriculated students* —A matriculated student entering for first-year courses at the University, or a non-matriculated student on entering for any courses, shall pay at the time of enrolment a deposit of £1 1s. for each subject taken. The deposit shall be forfeited for each subject in which the student fails to obtain at the close of the Session a class certificate admitting to the Annual Examinations.

2. *Laboratory courses.*—Students taking laboratory courses shall pay a deposit of £1 for the academic year in respect of each laboratory course, or a composition deposit of £3 for three or more laboratory courses for the academic year. The balance of all such deposits, after subtracting the cost of replacing apparatus or material lost or broken by the student, will be returned to him at the close of the academic year on application at the University Office. The student may be called upon to refund the cost of apparatus or material lost or broken when such cost exceeds the amount of the deposit. Certain perishable articles such as corks, rubber goods, wire gauze, and the more expensive chemicals and other materials may be treated as non-returnable and made a permanent charge against the Laboratory Deposit.

FACULTY OF ARTS

DEGREES IN ARTS.

1. The Degrees in the Faculty of Arts shall be :—
   (a.) Bachelor of Arts.
   (b.) Master of Arts.
   (c.) Doctor of Letters.

2. The Degree of Bachelor of Arts shall be conferred eitner as an ordinary degree or as a degree with Honours.

3. All candidates for degrees in Arts shall be required, before entering on their course, to have (a) matriculated in the Faculty of Arts as set forth in the Regulations relating to Matriculation, or (b) completed as matriculated students the first year courses in the Faculty of Engineering, or (c) graduated at a University recognised by the University of Western Australia.

4. *Candidates for the ordinary Degree of Bachelor of Arts shall be required, during not less than three academic years, to pass in ten separate courses selected from the following groups in accordance with Section 5 below :—

   (i.) Greek I. ; Greek II. ; Greek III.

   (ii.) Latin I. ; Latin II. ; Latin IIJ.

   (iii.) French I. ; French II.† ; French III.

   (iv.) German I. ; German II.† ; German III.

   (v.) English I. ; English II. ; English III.

   (vi.) Modern History A ; Modern History B ; Modern History C, or Modern Political Institutions.

   (vii.) Economics A ; Economics B ; Economics C.

   (viii.) Logic and Psychology ; Ancient Philosophy ; Modern Philosophy ; Ethics ; Education.

   (ix.) Mathematics I. ; Mathematics II. ; Mathematics III.

   (x.) Physics I. ; Applied Mathematics II. ; Applied Mathematics III.

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* Candidates who have completed part of their course prior to 1925 under the old regulations may complete the course for the Degree of Bachelor of Arts under those regulations as set forth in the Calendar for 1924

† Candidates shall not be entitled to take French II. and German II. respectively unless they shall have attained a standard of oral proficiency satisfactory to the lecturer in these subjects.

(xi.) Physics I. ; Physics II. ; Physics III.

(xii.) Biology I. ; Botany IIA. ; Botany IIB.

(xiii.) Biology I. ; Zoology IIA. ; Zoology IIB.

(xiv.) Chemistry I. ; Chemistry II. ; Chemistry III.

(xv.) Geology I. ; Geology II. ; Geology III.

5. The courses for the ordinary degree shall be selected in accordance with the following provisions :—

(a.) The First Year shall consist of not less than FOUR of the following courses—

(i.) One laboratory course, from the following :

Biology I.

Chemistry I.

Geology I.

Physics. I.

(ii.) One language, from the following :

English I.

French I.

German I.

Greek I.

Latin I.

(iii.) One of the following :

Economics A.

History (one course).

Logic and Psychology.

Mathematics I.

(iv.) One other course selected from the above groups

(b.) Evening students shall take in their First Year at least two of the courses prescribed above, and shall take the remaining course or courses during the next Session unless permission has been given by the Faculty to postpone to a later Session.

(c.) Three courses shall be taken from one of the groups in Regulation 4, and shall form the candidate's major group of study.

(d.) At least one course shall be taken in English or History, in Mathematics or Logic and Psychology, and in a language other than English.

(*e.*) Courses shall be chosen with the approval of the Dean of the Faculty of Arts, but not more than four of the courses from Sub-Sections (x.) to (xv.) of Regulation 4 shall be counted, of which not more than two shall be first year courses.

6.   Candidates for the degree of Bachelor of Arts with Honours shall be required during not less than four § academic years to pass in the following courses :—

(*a.*) Two subjects, selected with the approval of the Dean of the Faculty from the following list, shall form the candidate's Honours group :—Greek, Latin, French, German, English, Philosophy*, Modern History, Economics, Pure Mathematics, Applied Mathematics, Biology, Chemistry, Geology, Physics, but not more than one from Groups (x.) to (xv.) in Regulation 4 shall be so selected. Candidates shall be required during not less than three academic years to pass in three courses in each subject of their Honours group as major subjects, and shall also be required to carry out such additional work in the subjects of these courses as may be prescribed.

†(*b.*) Candidates shall also be required to pass in four other courses in Arts, selected with the approval of the Dean of the Faculty. The courses taken for the Honours degree shall include at least one course in English or History, in Mathematics or Logic and Psychology, and in a language other than English.

(*c.*) Candidates shall be required, after having passed the third course in each subject of their Honours group, to pursue a further course of advanced study in each subject, and shall be tested at a Final Honours Examination, part of which may be a written dissertation on a subject previously approved by the Faculty. The final examination in any subject may cover the work of all the courses taken in that subject.

* The Honours subject in Philosophy must include as part thereof, the courses in Logic and Psychology, and in Ancient *or* Modern Philosophy.
§ Honours examinations are held in November only.
† Candidates who entered the University prior to 1st January, 1923, will be required to pass in two other courses in Arts in accordance with the Regulations then in force.

(*d.*) Candidates shall be required to present themselves for examination in both subjects of their Honours group at the same time unless the Faculty in view of special circumstances shall previously have given permission for the two subjects of the group to be taken at successive examinations.

(*e.*) Candidates shall not be admitted to the Final Honours examination before they have passed in the courses prescribed in Section 6 (*b*).

(*f.*) Candidates taking an Honours group must complete the Honours Examination in that group within two academic years after completing attendance in the ten courses prescribed in Section 6 (*a*) and (*b*). A student who has obtained Honours in one group may sit for Honours in another group at any subsequent Honours Examination.

(*g.*) Candidates who have failed to obtain Honours in any group at a Final Honours Examination shall not be allowed to present themselves at a subsequent Honours Examination in a group including a subject taken in the previous examination unless the Faculty, in view of special circumstances, shall have given permission.

7 All candidates for the degree of Bachelor of Arts shall be required to pass in at least two subjects in the Annual Examinations held in each academic year, except in cases where only a single subject remains to complete the curriculum for the degree or in special cases under section 6 (d), when credit shall be given for a pass in that single subject.

8. Candidates who pass in at least one subject at the Annual Examinations but fail to pass in their other subject or subjects may, at the discretion of the examiners, be permitted to present themselves at the next following Supplementary Examination in the subject or subjects in which they have previously failed. A pass in one subject only at the ordinary examinations shall not count towards graduation unless followed by a pass in at least one other subject at the next following Supplementary Examination.

9. Candidates for degrees who fail to pass in any course (other than a course to be tested only at a Final Honours

Examination) by the commencement of the session immediately following their attendance on the course, shall be required to re-attend the class, unless the Faculty grant exemption.

10. Candidates for the degree of Bachelor of Arts who have completed the first year in the Faculty of Science or the second year in the Faculty of Engineering may be granted exemption by the Faculty of Arts from attendance at or from examination in such of the courses prescribed for Arts as they have already passed.

11. Bachelors of Science or Bachelors of Engineering who wish to proceed to the degree of Bachelor of Arts may be granted exemption from attendance at or from examination in such of the subjects prescribed for that degree as the Faculty of Arts may determine. Not more than four of the courses which have formed part of the candidate's curriculum for the degree of Bachelor of Science or Bachelor of Engineering shall be accepted as part of the qualification for the degree of Bachelor of Arts, and of these courses not more than one shall be a second year or senior course.

12. An exemption granted by the Faculty of Arts or the Professorial Board from examination in any course shall be accepted as a pass in that course.

*13. Bachelors of Arts who have obtained the degree with Honours may proceed to the degree of Master of Arts after the expiration of at least one year. They shall be required to present a thesis satisfactory to the examiners recommended by the Faculty on a theme previously approved by the Faculty. Themes from the subjects of groups (xi.) to (xv.) under Regulation 4 will not be approved under this Regulation.

*14. Bachelors of Arts who have obtained the ordinary degree may proceed to the degree of Master of Arts after the expiration of at least two years spent under such supervision as the Faculty may require in the further study of a subject or group of subjects approved by the Faculty and selected from groups (i.) to (x.) inclusive in Regulation 4. They shall be required to pass an examination in this subject or group of subjects of standard similar to that for the degree of Bachelor of Arts with honours, and also to present a thesis satisfactory to the examiners recommended by the Faculty on a theme previously approved by the Faculty.

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* Applications under Regulations 13 and 14 should be made before the April meeting of the Faculty of Arts.

15. The degree of Doctor of Letters may be conferred upon Masters of Arts of not less than five years standing who are adjudged by the Examiners nominated by the Faculty to have made an original and substantial contribution to some department of Literature or Learning.

16. All candidates for the Degrees of Master of Arts or Doctor of Letters may be called upon to present themselves for examination, written or oral, or both, on the subject of their thesis, and no thesis shall be accepted, the substance of which has previously been submitted as a qualification for a Degree in any other Institution.

Theses for the degree of Master of Arts should give evidence of wide reading, literary skill, and some independence of thought.

Theses for the Doctorate of Letters, in addition to a higher measure of these qualities, should give evidence of original research, should extend the bounds of knowledge or should throw fresh light upon problems of high interest in the chosen branch of learning.

17. For purposes of the University Regulations students who have passed in four or seven courses qualifying for the B.A. degree shall be held to have completed the First or Second Year respectively in the Faculty of Arts.

DIPLOMA IN EDUCATION.

This course is for the present in abeyance.

FACULTY OF SCIENCE.

DEGREES IN SCIENCE (GENERAL).

1. Degrees in Science shall be conferred either in **Pure Science**, or in Agricultural Science.

2. The degrees in Science shall be :—
- (*a.*) Bachelor of Science or Bachelor of Science in Agriculture.
- (*b.*) Master of Science or Master of Science in Agriculture.
- (*c.*) Doctor of Science or Doctor of Science in Agriculture.

3. The degree of Bachelor of Science or of Bachelor of Science in Agriculture shall be conferred either as an ordinary degree or as a degree with Honours.

4. All candidates for degrees in Science shall be required before entering on their course to have either (*a*) matriculated in the Faculty of Science as set forth in the regulations relating to Matriculation, or (*b*) completed as matriculated students the first year in the Faculty of Engineering, or (*c*) graduated at a University recognised by the University of Western Australia.

5. The yearly examinations in Science shall be held at the end of the third term in each year, or at such other times as the Faculty may determine. Students who have not acquitted themselves satisfactorily in attendance at lectures and in term or class examinations or other exercises may be refused admission to these examinations.

DEGREES IN PURE SCIENCE.

6. The course for the ordinary degree of Bachelor of Science shall occupy at least three academic years, and the course for the degree with Honours at least four academic years except in the special circumstances provided for in Section 15 below.

7. The subjects of study for the first year shall be any four of the following :—
- (i.) Biology I.
- (ii.) Chemistry I.
- (iii.) Geology I.
- (iv.) Mathematics I.
- (v.) Physics I.

8. Unless granted special exemption under Section 6 of the General Regulations a student in order to complete the first year must pass in the four subjects selected during one and the same academic year. A student who has failed at an ordinary yearly examination in not more than two of the subjects prescribed for the first year may be allowed by the Faculty to present himself at the next following supplementary examination for examination in the subject or subjects in which he failed. A student who has passed in only three of the subjects prescribed for the first year in Science may be allowed, under exceptional circumstances, to take the fourth subject along with the course prescribed for the second year and to present himself for examination in that subject at the next following ordinary examination.

9. In order to complete any portion of the first year a student who has been granted special exemption under Section 6 of the General Regulations must pass in not less than two subjects during one and the same academic year, unless he has previously passed in all but one of the subjects required for the first year, when a pass in the remaining subject shall complete the first year. A student who has been granted the above exemption and who has passed at an ordinary yearly examination in only one of these subjects may be allowed by the Faculty to present himself for examination in the remaining subject or subjects at the next following supplementary examination.

10. The subjects of study for the second year shall be any three of the following selected in accordance with Section 5 of the General Regulations :—

        (i.) Applied Mathematics II.
       (ii.) Botany IIA. or IIB.
      (iii.) Chemistry II.
      (iv.) Geology II.
       (v.) Mathematics II.
      (vi.) Physics II.
     (vii.) Zoology IIA. or IIB.
    (viii.) Agricultural Chemistry.
     (ix.) The course not previously selected under Section 7.

11.   Of the three subjects selected from the list in Section 10 at least one subject from the first seven, shall be chosen as a major subject namely a subject the study of which shall extend over at least two years from the commencement of the second year of the science course.

12.   Unless granted special exemption under Section 8 of the General Regulations a student in order to complete the second year must pass in the three subjects selected during one and the same academic year.   A student who has failed at an ordinary yearly examination in not more than two of the subjects prescribed for the second year may be allowed by the Faculty to present himself at the next following supplementary examination for examination in the subject or subjects in which he failed.   A student who has passed in all but one of the subjects including a major subject prescribed for the second year may be allowed under exceptional circumstances to take the remaining subject along with the course prescribed for the third year and to present himself for examination in that subject at the next following ordinary examination.   But such student shall not be granted a pass in any subject of the course for the third year at any examination held prior to his completing the course for the second year.

13.   In order to complete any portion of the second year a student who has been granted special exemption under Section 8 of the General Regulations must pass in at least two of the subjects prescribed during one and the same academic year unless he has previously passed in all but one of the subjects required for the second year when a pass in the remaining subject shall complete the second year.   A student who has been granted the above exemption and who has failed in one or more subjects at an ordinary yearly examination may be allowed by the Faculty to present himself for examination in the subject or subjects in question at the next following supplementary examination.

14.   The course of study for the third year shall be two of the subjects in the following list selected in accordance with Section 5 of the General Regulations.   Of these at least one shall be a further course in a major subject taken in the

second year as prescribed in Section 11. Such a subject shall be regarded as a major subject for the third year :—

> (i.) Agricultural Chemistry.
> (ii.) Applied Mathematics II. or III.
> (iii.) Botany IIA. or IIB.
> (iv.) Chemistry II. or III.
> (v.) Geology II. or III.
> (vi.) Mathematics II. or III.
> (vii.) Physics II. or III.
> (viii.) Zoology IIA. or IIB.
> (ix.) The course, if any, not previously selected from the list under Section 7.

15. A candidate who has obtained distinction in a major subject in the second year may be permitted by the Faculty to specialise in that major subject in the third year. In such a case the candidate shall attend the courses of instruction upon such part or parts of other subjects but not necessarily those prescribed in Section 14 for the third year as the Professor or Lecturer in the major subject may determine. Such candidates if they obtain distinction in the major subject in the third year and show a satisfactory knowledge of the other subject or subjects prescribed shall be held to have passed the final examination of the third year notwithstanding Section 14 above.

16. Every candidate for the ordinary degree of Bachelor of Science must pass during one and the same academic year in all the subjects prescribed for the final year of the course for that degree. A student who has passed at an ordinary yearly examination in a major subject, but who fails in his other subject, may be allowed by the Faculty to present himself for examination in that subject at the next following supplementary examination. No supplementary examination shall be granted to a candidate who has not passed in a major subject at the final yearly examination.

17. Candidates for the degree of Bachelor of Science must be able to read at sight scientific passages in either French or German. Questions will be set in the final examination for the degree to test the candidates' knowledge of the

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*This concession is intended only to enable a student who shows very special aptitude for original research in some subject to proceed to an honours degree in three years. It will be granted only when the circumstances appear to the Faculty to be exceptional.

language selected. Candidates who show that they are able to read at sight scientific passages in both French and German may be given additional credit at the final examination.

18. Matriculated students who have complied with the foregoing regulations will be admitted to the ordinary degree of Bachelor of Science.

Courses for Honours and Higher Degrees in Pure Science.

19. Candidates for the degree of Bachelor of Science with Honours shall take the course for the ordinary degree with such additional work in their major subject and pass such special examinations therein as the Faculty may determine. Candidates for Honours in a Science subject must either be day students or be engaged during the day in approved work in that subject.

20. Candidates for the degree of Bachelor of Science with Honours must have a working knowledge of both French and German. This knowledge will be tested in the final examination for the degree.

21. Candidates for Honours including post-graduate Honours in any subject must pass the Honours Examination in that subject within two years after completing the requirements for the pass degree as set forth in Sections 14 to 17 (inclusive.)

22. Bachelors of Science who have graduated with Honours may proceed to the degree of Master of Science after the expiration of at least one year spent in research work under approved supervision on a subject or group of subjects approved by the Faculty. They shall be required to present a thesis on the subject or subjects of their research satisfactory to the examiners recommended by the Faculty. The thesis must show on the part of the candidate sound knowledge of the subject matter and some independence of thought, combined with power to express it in clear and concise language.

23. Bachelors of Science who have obtained the ordinary degree may proceed to the degree of Master of Science after at least two years' further work including at least one year spent in research work under approved supervision on a subject or

group of subjects approved by the Faculty. They will be required to pass an examination in such subject or group of subjects of a standard similar to that for the degree of Bachelor of Science with Honours and also to present a thesis satisfactory to the examiners recommended by the Faculty on a subject or group of subjects approved by the Faculty.

24. Bachelors of Science of at least three years' standing who have graduated with Honours and Bachelors of Science of at least four years' standing who have obtained the ordinary degr e and Masters of Science of at least two years' standing, may proceed to the degree of Doctor of Science. They must satisfy the examiners recommended by the Faculty of their ability to carry out original research in a subject or subjects approved by the Faculty, and must submit for the approval of the said examiners a thesis on such research. No thesis shall be accepted the substance of which has previously been submitted as a qualification for a deg ee in any other institution. The thesis must represent a distinct contribution to the knowledge of the subject and must be presented in a form suitable for publication.

25. All candidates who present a thesis either as sole test or in combination with other tests for admission to any degree may be called upon to present themselves for an examination, written or oral or both, on the subject of such thesis.

26. Every candidate for the degree of Bachelor of Science with Honours or for any higher degree in Pure Science must pass in all the subjects prescribed for the final year of the course for such degree at one and the same examination. No supplementary examinations shall be held in the subjects of the final year for the Honours Degree nor shall a candidate be allowed without the special permission of the Faculty to sit again ior Honours in a subject in which he has previously sat for the Honours Examination.

DEGREES IN AGRICULTURAL SCIENCE.

27. The course for the ordinary degree of Bachelor of Science in Agriculture shall occupy at least three academic years and the course for that degree with Honours at least four academic years.

28. The subjects of study for the first year shall be :—

       (i.) Biology I.
       (ii.) Chemistry I.
       (iii.) Mathematics I.
       (iv.) Physics I.

subject to the provisions of Sections 8 and 9 of the Regulations for Pure Science.

29. The subjects of study for the second year shall be the following :—

       Agricultural Chemistry (Divisions I. and II.).
       Agricultural Botany.
       Agricultural Bacteriology.
       Economic Entomology.
       Economics A.
       Veterinary Anatomy and Physiology.

30. Unless granted special exemption under Section 8 of the General Regulations a student in order to complete the second year must pass in the subjects prescribed during one and the same academic year. A student who has failed at an ordinary yearly examination in not more than three of the subjects prescribed for the second year, may be allowed by the Faculty to present himself at the next following supplementary examination for examination in the subject or subjects in which he failed. A student who passed in at least three of the subjects prescribed for the second year may be allowed under exceptional circumstances to take the remaining subject or subjects along with the course prescribed for the third year and to present himself for examination in that subject or those subjects at the next following ordinary examination. But such student shall not be granted a pass in any subject of the course for the third year at any examination held prior to his completing the course for the second year.

31. In order to complete any portion of the second year a student who has been granted special exemption under Section 8 of the General Regulations, must pass in a least two of the

subjects prescribed during one and the same academic year unless he has previously passed in all but one of the subjects required for the second year when a pass in the remaining subject shall complete the second year. A student who has been granted the above exemption and who has failed in one or more subjects at an ordinary yearly examination may be allowed by the Faculty to present himself for examination in the subject or subjects in question at the next following supplementary examination.

32. Before proceeding to the third year of the course candidates must produce satisfactory evidence of not less than twelve months' consecutive residence and practical work on an approved State or other farm at some time subsequent to their sixteenth birthday. At the discretion of the Faculty residence and practical work during two shorter periods amounting together to at least twelve months may be accepted. Candidates will be required to pass an examination in practical knowledge of farm work.

33. The course for the third year shall comprise the following subjects :—

> Principles of Agriculture.
> Agricultural Geology.
> Plant Pathology.
> Horticulture.
> Dairying.
> Agricultural Engineering.
> Land Surveying and Field Work.
> Veterinary Hygiene and Dietetics.
> Veterinary Pathology.

34. Every candidate for the ordinary degree of Bachelor of Science in Agriculture must pass in all the subjects prescribed for the final examination during one period of twelve months.

35. Matriculated students who have complied with the foregoing regulations for graduation in Agriculture will be admitted to the ordinary degree of Bachelor of Science in Agriculture. None of the foregoing regulations shall be held to debar a holder of the Diploma in Agriculture from proceeding to the ordinary degree of Bachelor of Science in Agriculture according to the Supplementary Course set forth below.

Courses for Honours and Higher Degrees in Agricultural Science.

36. Candidates for the degree of Bachelor of Science in Agriculture with Honours shall take the course for the ordinary degree with such additional work in a subject or subjects in Agricultural Science selected with the approval of the Faculty and pass such special examinations therein as the Faculty may determine.

37. Candidates for the degree of Bachelor of Science in Agriculture with Honours must have a working knowledge of either French or German. This knowledge will be tested in the final examination for the degree.

38. Bachelors of Science in Agriculture who have graduated with Honours may proceed to the degree of Master of Science in Agriculture after the expiration of at least one year spent in research work under approved supervision on a subject or group of subjects approved by the Faculty. They shall be required to present a thesis on the subject or subjects of their research satisfactory to the examiners recommended by the Faculty. The thesis must show on the part of the candidate sound knowledge of the subject matter and some independence of thought, combined with power to express it in clear and concise language.

39. Bachelors of Science in Agriculture who have obtained the ordinary degree may proceed to the degree of Master of Science in Agriculture after at least two years' further work including at least one year spent in research work under approved supervision on a subject or group of subjects approved by the Faculty. They will be required to pass an examination in such subject or group of subjects of a standard similar to that for the Degree of Bachelor of Science in Agriculture with Honours and also to present a thesis satisfactory to the examiners recommended by the Faculty on a subject or group of subjects approved by the Faculty.

40. Bachelors of Science in Agriculture of at least three years' standing who have graduated with Honours and Bachelors of Science in Agriculture of at least four years' standing who have obtained the ordinary degree and Masters of Science in Agriculture of at least two years' standing, may proceed to the degree of Doctor of Science in Agriculture. They must satisfy

the examiners recommended by the Faculty of their ability to carry out original research in a subject or subjects approved by the Faculty and must submit for the approval of the said examiners a thesis on such research. No thesis shall be accepted the substance of which has previously been submitted as a qualification for a d·gree in any other institution. The thesis must represent a distinct contribution to the knowledge of the subject and must be presented in a form suitable for publication.

41. All candidates who present a thesis either as sole test or in combination with other tests for admission to any degree may be called upon to present themselves for an examination, written or oral or both, on the subject of such thesis.

42. Every candidate for the degree of Bachelor of Science in Agriculture with Honours or for any higher degree in Agricultural Science must pass in all the subjects prescribed for the final year of the course for such degree at one and the same examination. No supplementary examinations shall be held in the subjects of the final year for the Honours Degree nor shall a candidate be allowed without the special permission of the Faculty to sit again for Honours in a subject in which he has previously sat for the Honours Examination.

EXEMPTIONS.

43. Bachelors of Arts or Bachelors of Engineering who wish to proceed to the degree of Bachelor of Science in Pure Science or in Agricultural Science may be granted exemption from attendance at or from examination in such of the subjects prescribed for that degree as the Faculty of Science may determine.

Not more than four of the courses which have formed part of the candidate's curriculum for the degree of Bachelor of Arts or Bachelor of Engineering shall be accepted as part of the qualification for the degree of Bachelor of Science, and of these courses not more than one shall be a second year or senior course.

44. Subject to the provision in the second paragraph in Section 43, candidates for the degree of Bachelor of Science in Pure Science or in Agricultural Science who have completed the first or second year in the Faculty of Arts or the Faculty of Engineering may be granted exemption from attendance at or from examination in such of the subjects prescribed for the first

year in Pure Science or in Agricultural Science as the Faculty of Science may determine.

45.   For the purpose of the foregoing Regulations an exemption granted by the Faculty of Science or the Professorial Board from examination in any subject shall be accepted as a pass in that subject.

46.   Subject to the foregoing Regulations a pass in any subject which is common to the courses for the degrees of Bachelor of Science in Pure Science and Bachelor of Science in Agricultural Science shall be deemed to be a pass in that subject in either of those courses.

DIPLOMA IN AGRICULTURE.

1.   The course for the Diploma in Agriculture shall occupy not less than two academic years.

2.   Before entering on the Diploma course candidates shall have attained the age of 16 years, and must pass the Matriculation Examination in four subjects, including English and Mathematics; the four subjects may be passed at the Junior Standard. Students who have fulfilled the requirements for Matriculation in the Faculty of Science will be eligible for admission to the Diploma Course.

3.   The subjects of study for the first year shall be the following :—

> Biology I.
> Preparatory Farm Chemistry.
> Book-keeping.
> Agricultural Botany.
> Veterinary Anatomy and Physiology.

Candidates who have passed in the above subjects shall be deemed to have completed their first year.*

4   Before proceeding to the second year of the course students must produce satisfactory evidence of not less than twelve months' consecutive residence and practical work on an approved State or other farm at some time subsequent to their fifteenth birthday.   Candidates will be required to pass an examination in practical farm work.

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* Candidates for the Diploma who have passed in not less than two of the subjects of the first year may be allowed at the discretion of the Faculty to proceed to the work of the second year.

5. The course for the final year shall comprise the following subjects :—

> Principles of Agriculture.
>
> Agricultural Chemistry, Division 1.
>
> Agricultural Bacteriology.
>
> Plant Pathology.
>
> Horticulture.
>
> Dairying.
>
> Land Surveying and Field Work.
>
> Veterinary Hygiene and Dietetics.
>
> Veterinary Pathology.

Students who have passed in all the subjects of the Diploma course will be deemed to have completed their second year.

6. Candidates who have complied with the foregoing regulations governing attendance at classes and examinations will be granted the University Diploma in Agriculture (Dipl. Agric.)

SUPPLEMENTARY COURSE TO ENABLE HOLDERS OF THE DIPLOMA IN AGRICULTURE TO PROCEED TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

1. Students who have obtained the Diploma in Agriculture at the University may at any time proceed to the degree of Bachelor of Science in Agriculture by completing the requirements prescribed for Matriculation in the Faculty of Science as set forth in Section 4 of the Regulations for degrees in Science and by subsequently completing the Supplementary Course. The Supplementary Course shall include those subjects prescribed for the degree of Bachelor of Science in Agriculture not already passed during the Diploma course and shall extend over at least two academic years. A student may not attend the courses prescribed for the first year of the Supplementary Course or proceed to the examinations therein before completing his Matriculation, unless in the opinion of the Faculty he has shown exceptional ability during his Diploma course.

2. The subjects of study for the first year of the Supplementary Course shall be the following :—

> Chemistry I.
> Mathematics I.
> *Economic Entomology.
> *Economics A.

Candidates who have completed the requirements for Matriculation and passed in the above subjects during one and the same academic year may proceed to the second year.

3. The subjects of study for the second year of the Supplementary Course shall be the following :—

> Agricultural Chemistry, Division II.,
> Physics I.,
> Agricultural Geology,
> Agricultural Engineering,

together with any of the subjects already taken during the Diploma course which the Faculty may prescribe. The subjects prescribed for the second year of the Supplementary Course must be passed at one and the same examination.

4. Holders of the Diploma in Agriculture who have complied with the Regulations for the foregoing Supplementary Course will be admitted to the ordinary degree of Bachelor of Science in Agriculture.

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* In alternate years, beginning 1923, Agricultural Geology and Agricultural Engineering shall be taken instead of Economic Entomology and Economics A, which shall then be taken in the second year (*see* Sec. 3) in place of subjects already taken.

FACULTY OF ENGINEERING.

CONSTITUTION OF THE SCHOOL OF ENGINEERING AND MINING.

1.   The School of Engineering and Mining shall consist of Departments dealing with three or more of the following branches of Engineering, as determined from time to time by the Senate:—

   (i.) Civil.
   (ii) Mechanical.
   (iii.) Electrical.
   (iv.) Mining.
   (v.) Metallurgical and Chemical.
   (vi.) Architectural.

2.   The School shall be managed by a Board of **Management** consisting of the heads of the Departments enumerated in Section I.

3.   The Board shall nominate in September each year, through the Faculty of Engineering, one of its members to be Chairman of the Board for the ensuing year.

4.   The Board of Management shall meet weekly and shall deal with such matters as the preparation of estimates, the ordering of books and apparatus, recommendations for new buildings and equipment, and repairs; questions of new appointments and dismissals, the arrangement of the time-table, and the general management of the laboratories and workshops, and all public testing.

5.   A department including four of the above branches, namely, Mechanical Engineering, Mining Engineering, Metallurgical and Chemical Engineering and Architectural Engineering shall be in the charge of Professor Whitfeld, and Civil Engineering and Electrical Engineering shall be separate departments and shall be in the charge of Associate Professor Tomlinson and Mr. P. H. Fraenkel, respectively.

DEGREES IN ENGINEERING.

(See also the special Regulations for courses in Engineering.)

1.   The Degrees in Engineering shall be :—
   (*a.*) Bachelor of Engineering.
   (*b.*) Master of Engineering.

2. The degree of Bachelor of Engineering shall be conferred either as an ordinary degree or as a degree with Honours.

3. All candidates for degrees in Engineering shall be required, before entering on their course, to have either—

    (a) matriculated in the Faculty of Engineering as set forth in the regulations relating to Matriculation ; or

    (b) completed as matriculated students the first year in the Faculty of Arts or the Faculty of Science, provided that they have passed in Mathematics I. and Physics I. ; or

    (c) graduated in Arts or Science.

4. The annual examinations in Engineering shall be held at the end of Session, or at such other times as the Faculty may determine. Students who have not acquitted themselves satisfactorily in attendance at lectures or laboratory work or in term or class examinations or other exercises may be refused admission to these examinations.

5. The course for the degree of Bachelor of Engineering shall occupy not less than five academic years.

*6. Candidates for the Degree of Bachelor of Engineering shall be required to pass in twenty-six separate courses selected from the following groups as set out hereunder :—

    Arts Group.—Not less than THREE courses in the following subjects, and TWO of these courses shall be taken in the later years of the Engineering curriculum :

            English (three courses).
            French (three courses).
            German (three courses).
            Latin (three courses).
            Greek (three courses).
            Economics (three courses).
            History (four courses)
            Logic and Psychology.
            Philosophy (two courses).
            Education.

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* Candidates who have completed part of their course prior to 1925 under the old regulations may complete the course for the Degree of Bachelor of Engineering under those regulations as set forth in the Calendar for 1924.

Science Group.—Not less than NINE courses including :

> Mathematics I. and II.
> Chemistry I.
> Geology I.
> Physics I.
> Applied Mathematics II.

together with THREE selected from the following :

> Engineering Chemistry.
> Engineering Geology.
> Engineering Physics.
> Applied Mathematics III.
> Biology I.
> Mathematics III.

Engineering Group.—TEN courses as follows :

> Descriptive Geometry.
> Materials and Structures (two courses).
> Mechanics and Heat Engines (two courses).
> Electrical Engineering (one and a-half courses).
> Hydraulics (half course).
> Surveying.
> Engineering Drawing and Design (two courses).

Professional Group.—Not less than FOUR courses selected from the following :

> Architecture (including Building Construction).
> Astronomy and Geodesy.
> Civil Engineering A. and B.
> Electrical Engineering IIA. and B.
> Engineering Drawing and Design III.
> Hydraulics and Water Supply.
> Materials and Structures IIA. and B.
> Mechanics of Machinery and Heat Engines IIA. and B.
> Metallurgy and Assaying A. and B.
> Mining A. and B.
> Municipal Engineering.
> Railway Engineering.
> Works Management and Law (for Engineers).
> Any other approved course or courses.

7. (i.) The First Year shall consist of not less than FOUR
        of the following subjects :—

> (a.) One laboratory subject, from the following :
>> Biology I.
>> Chemistry I.
>> Geology I.
>> Physics I.

> (b.) One language, from the following :
>> English I.
>> French I.
>> German I.
>> Greek I.
>> Latin I.

> (c.) One of the following :
>> Economics A.
>> History (one course).
>> Logic and Psychology.
>> Mathematics I.

> (d.) One other subject selected from the above
>> groups.

(ii.) Students are recommended to take Mathematics I.
        and Physics I., in their First Year.

(iii.) Evening students shall take in their First Year at
        least two of the subjects prescribed above and shall
        take the remaining subject or subjects during
        the next Session unless permission has been
        given by the Faculty to postpone to a later Ses-
        sion.

8. The subjects of study for the second year (three academic
terms) shall be not less than six of the following, the selection
being subject to the approval of the Dean of the Faculty :—

> Mathematics II.
> Physics I. or Chemistry I.
> Mechanics and Heat Engines I.
> Materials and Structures I.
> Descriptive Geometry and Drawing.
> Surveying I.
> Any other approved subject.

9. The subjects of study for the third year (two academic terms) shall be not less than s x of the following, the selection being subject to the approval of the Dean of the Faculty :—

> Applied Mathematics II.
> Geology I. or Engineering Chemistry.
> Materials and Structures II.
> Hydraulics I.
> Mechanics and Heat Engines II.
> Electrical Engineering I.
> Engineering Drawing and Design I.
> Any other approved subject.

10. In order to complete any one of the first three years of the course, a student shall be required to pass in all the prescribed subjects during one and the same academic year. A student who has passed in not less than two subjects at an ordinary yearly examination may be allowed by the examiners to present himself for examination in the remaining subject or subjects at the next following supplementary examination. A student who has passed in all but one of the subjects prescribed for one of the years may be allowed, under exceptional circumstances, to take the remaining subject along with the course prescribed for the next year, and to present himself for examination in that subject at the next following ordinary examination

11. The subjects of study for the fourth and fifth years shall be selected from one of the following branches of Engineering : -

> (i.) Civil
> (ii.) Mechanical
> (iii) Electrical.
> (iv.) Mining.
> (v.) Metallurgical
> (vi.) Chemical.

12. The subjects of study for the fourth year (two academic te ms) shall be not less than six of the courses set forth in Section 6, the selec ion being subject to the approval of the Dean of the Faculty.

13. In order to complete the fourth year a student shall be required to pass in all the subjects selected during one and the same academic year. Provided that a student who has

passed in not less than three subjects at an ordinary yearly examination, may be allowed by the examiners to present himself for examination in the remaining subject or subjects at the next following supplementary examination.

14.   The subjects of study for the fifth year (two academic terms) shall be not less than three of the courses set forth in Section 6, the selection being subject to the approval of the Dean of the Faculty.

15.   Every candidate for the ordinary degree of Bachelor of Engineering must pass in all the subjects selected for the final year of the course for that degree during one period of twelve months.

16.   All candidates for the ordinary Degree of Bachelor of Engineering, before being admitted to that Degree, shall present a thesis satisfactory to the examiner or examiners recommended by the Faculty, and showing a sufficient knowledge of some approved Engineering subject and the power of clearly expressing such knowledge.

17.   Matriculated students who have complied with the foregoing regulations together with the Special Regulations set forth below will be admitted to the ordinary degree of Bachelor of Engineering.*

COURSES FOR HONOURS AND HIGHER DEGREES IN ENGINEERING.

18.   Candidates for the degree of Bachelor of Engineering with Honours shall take the course for the ordinary degree, with such additional work and pass such special examinations as the Faculty may determine.

19.   Bachelors of Engineering who have graduated with Honours may proceed to the degree of Master of Engineering after the expiration of at least three years spent in the science or practice of engineering.   They shall be required to present a thesis satisfactory to the examiners recommended by the Faculty.   This thesis shall give evidence of wide reading and some originality of thought.

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* NOTE:—" The following Technical Institutions recognise the B.E. Degree of the University of Western Australia as exempting from their Associate-Membership examination —
    The Institution of Engineers, Australia.
    The Institution of Civil Engineers (Sections A. and B.).
    The Institution of Mechanical Engineers."

20. Bachelors of Engineering who have obtained the oidinary degree may proceed to the degree of Master of Engineering after at least three years spent in the science or practice of engineering. They shall be required to pass an examination of a standard similar to that for the degree of Bachelor of Engineering with Honours and also to present a thesis satisfactory to the examiners recommended by the Faculty. This thesis shall give evidence of wide reading and some originality of thought.

21. All candidates for the degree of Master of Engineering shall be required to submit their thesis and subjects of examination for the approval of the Faculty of Engineering not later than 31st August in any year.

22. All candidates who present a thesis either as sole test or in combination with other tests for admission to any degree may be called upon to present themselves for an examination, written or oral or both, on the subject of such thesis. No thesis shall be accepted the substance of which has previously been submitted as a qualification for a degree in any other institution.

23. Every candidate for the degree of Bachelor of Engineering with Honours or for any higher degree in Engineering must pass in all the subjects selected for the final year of the course for such degree during one and the same academic year.

SPECIAL REGULATIONS FOR COURSES IN ENGINEERING.

24. The regular work at the University in each session in Engineering commences in March and ends in November for the first two years of the course, and ends in August for all the other years.

25. During the vacation from November to March after the first year's course, every student shall be required to do at least six weeks' practical training in some approved workshop.

26. During the vacation from November to March after the second year's course, every student shall be required to do at least six weeks' practical training in a survey camp.

27. During the vacation from August to March, after the third and fourth years' courses, every student shall be required to obtain employment of not less than four months in some approved workshop, mine, or other engineering works or offices.

Students are recommended to make their own arrangements to secure suitable employment, and to make their selection with a view to that particular branch of engineering which they propose to follow.   The members of the Faculty of Engineering will always be glad to give advice and afford assistance in this matter.

28.   Before entering on the next year's course of study, every student shall present a certificate on the prescribed form showing the time and nature of the practical work performed during the vacation.

29.   Students who can produce evidence of satisfactory practical work in the shop or field, may apply for exemption from similar work prescribed during the vacations.

30.   All Engineering students, before being admitted to a Degree, shall have attended some approved class of instruction in First Aid to the Injured, and have obtained a certificate of competency therein.

31.   Engineering students will be required to read during their long vacations a certain selection of books embodying modern thought in literature, economics, etc.

32.   Engineering students who intend to take up Municipal Engineering are required, during their course, to obtain the Health Inspector's Certificate of the Royal Sanitary Institute.

EXEMPTIONS.

33.   Bachelors of Arts or Bachelors of Science in Pure Science or in Agricultural Science who wish to proceed to the degree of Bachelor of Engineering may be granted exemption from attendance at or from examination in such of the subjects prescribed for that degree as the Faculty of Engineering may determine.

34.   Candidates for the degree of Bachelor of Engineering who have completed the first or second year in the Faculty of Arts or the Faculty of Science may be granted exemption from attendance at or from examination in such of the subjects prescribed for the first year in Engineering as the Faculty of Engineering may determine.

35.   For the purpose of the foregoing Regulations an exemption granted by the Faculty of Engineering or the Professorial Board from examination in any subject shall be accepted as a pass in that subject.

REGULATIONS FOR RECOGNITION OF CLASSES AT THE SCHOOL OF MINES OF WESTERN AUSTRALIA, KALGOORLIE, FOR THE CURRICULUM FOR THE DEGREE OF BACHELOR OF ENGINEERING IN MINING AND METALLURGY.

'. Students of the School of Mines of Western Australia may be admitted to the University examinations in subjects wherein they have attended at the School of Mines courses of instruction, which have been approved by the Senate after a report by the Professorial Board thereon.

2. (*a.*) The first year course for the degree of Bachelor of Engineering may be taken either at the University or School of Mines, provided the conditions set forth in Statute No. 14, relating to approval of courses, be complied with.

(*b.*) The second and third year courses for the degree of Bachelor of Engineering must be taken at the University.

(*c.*) Either the fourth or fifth year for the degree of Bachelor of Engineering in the Branch of Mining Engineering, or of Metallurgy must be taken at the School of Mines, the subjects of study being selected from the following :—

> Mining I. and II.
> Surveying I. and II.
> Assaying I. and II.
> Metallurgy I. and II.
> Economic Geology.
> Mineralogy.

(*d.*) The remaining subjects of the fourth and fifth years must be taken at the University.

4. Teachers of the School of Mines may be Examiners or Co-Examiners with members of the University Staff in the 4th or 5th year subjects taken at the School of Mines for the degree of Bachelor of Engineering in the Branch of Mining Engineering or of Metallurgy.

REGULATIONS FOR ASSOCIATES OF THE SCHOOL OF MINES OF W.A. (KALGOORLIE), OR PERTH TECHNICAL SCHOOL TO TRANSFER TO THE B.E. COURSE.

Any Associate of the Perth Technical School or School of Mines of W.A., who has matriculated may be permitted to obtain a reduction in the period of attendance at the University, necessary to qualify for his B.E. Degree, provided that the time during which he attends the University shall not be less than two years, and the Dean of the Faculty shall certify, before he is allowed to sit for his final examination, that the standard of his engineering and general education is equivalent to that of students who are taking the ordinary Course.

A candidate must make application to the Faculty and furnish with such application evidence as to previous training and examinations.

The Faculty may give such credit as it deems fit for—

(1.) Subjects passed in the course for the Associateship.

(2.) Additional subjects passed at the Perth Technical School, or School of Mines, Kalgoorlie, which are not included in the candidate's course for the Associateship.

(3.) Subjects of any year of the course for the degree to which he wishes to proceed which have been passed by the candidate at a University Annual Examination prior to Matriculation.

FEES FOR TESTING MATERIALS OF CONSTRUCTION.

The University is ready to carry out mechanical and physical tests of materials used in construction.

The School of Engineering and Mining is equipped with a 50-ton Universal Testing Machine, Torsion, Impact, and Hardness Testing Machines, and the apparatus required for cement testing, metallographical investigations, etc.

The following Schedule of Charges has been adopted:—

A.—COMMERCIAL TESTING.

		£	s.	d.
1.	Testing up to 50 tons maximum Commercial bar, round, or flat iron, chains, brick, concrete, etc., for ultimate strength only, per test	0	5	0
	For complete test, including elastic limit and elongation, per test	0	10	0
2.	Testing transverse strength of sample C.I. bars for foundry purposes, per test	0	5	0
3.	Testing wire up to 2 tons, for ultimate strength and extension, per test	0	5	0
4.	Testing wire rope for ultimate strength and extension, per test	1	1	0
5.	Testing for hardness—			
	(a.) Brinell or Ludwig, per test	0	5	0
	(b.) Scleroscope Factor, per test	0	5	0
6.	Standard Test for cement	1	10	0

Including—

(a.) Tension (neat), at 7 and 28 days.
(b.) Tension (sand), 7 and 28 days.
(c.) Fineness and rate of setting.
(d.) Pat tests.

All the above tests 3 months, additional	1	0	0

Additional Tests—

Compression (neat), 7 and 28 days	0	10	0
Compression (sand), 7 and 28 days and 3 months	1	0	0

	£	s.	d.
7. Mortar Test, suitability of sand for concrete—			
Rough Test (Tensile strength of cement mortar at 7 days)	0	5	0
The above, including 28 days test and organic test	0	10	0
Complete Test (Tensile strength at 7 and 28 days, compared with that of Standard Sand, grading, silt, organic matter, and insoluble silica) . . .	1	1^	0
8. Proportioning of Concrete, from given samples of stone, sand, and cement, determining the best proportions for concrete (according to work involved), from . . .	1	10	0
9. Timber Tests for Seasoning of Flooring, etc.—			

		£	s.	d.
Moisture Content .	⎫ Per sample	0	5	0
	⎬ Set of 3			
Pronging for case-hardening .	⎭ samples	0	10	0

Metallographic Tests.

	£	s.	d.
Simple examination for determination of grain, size, etc., of steel, cast iron, brass, etc. .	0	5	0
Detailed examination of faulty material, including macroscopic examination, acid etching, sulphur, print, photos, etc., according to work required, from .	1	0	0

Chemical Analysis additional, by arrangement with the Department of Chemistry.

Other tests (in co-operation with the Department of Chemistry).

Oil Testing . . ⎫
Fuel Testing . . . . . ⎬By arrangement.
Engine and Prime Motor Testing ⎭

B.—SCIENTIFIC TESTING.

Accurate Tests of Prepared Specimens.

		£	s.	d.
1.	Testing, with gradually increasing load, up to 50 tons maximum in Tension, Compression, Torsion, Shear or Bending (up to 40 inch centres). Determining the Elastic Limit, Ultimate Strength, Deformation or Deflection, and providing certificates and graphical diagram of same, per single test	1	1	0
	Per complete test of qualities (5 specimens)	3	3	0
2.	Testing as above, Mechanical Details, Riveted Joints, etc., per single test	2	2	0
3.	Testing, with impact load, up to 100 kilogramme 5 metre maximum in Tension, Compression, or Bending (up to 36 inch centre), Determining the Impact Ultimate Strength, Deformation or Deflection, Energy of Rupture, and providing Certificates and graphical diagram of same, per single test	2	2	0

Accurate test specimens are necessary for this Section of Tests, but the preparation of the same will be undertaken, if desired.

Arrangements can be made for numbers of similar tests at reduced prices.

REGULATIONS FOR CONDUCTING TESTS.

1. All communications and applications should be addressed to the Clerk of Senate in writing.

2. All fees must be paid to the Clerk of Senate before any test or analysis will be made.

3. In every case a tabulated statement of the results of the analysis or testing will be sent, signed by the Professor of Engineering.

4. The Professor of Engineering may, with the concurrence of the Vice-Chancellor, arrange for a reduction of charges in any particular cases when numerous tests of a similar nature are required.

5. It is to be expressly understood that no liability whatever shall attach to the University, except as regards the accuracy of the tests of the samples submitted.

SCHOLARSHIPS AND PRIZES 1925.

THE LADY HACKETT PRIZE FOR CLASSICS.

1. The sum of £100, presented by Lady Hackett, shall form the endowment for a prize to be called the Lady Hackett Prize, and shall be invested as the Senate may from time to time direct.

2. The Prize shall be of the value of the annual interest of the said sum of £100 and of its accumulations, if any.

3. The Prize shall be open to matriculated students of the University and shall not be awarded more than once to the same student.

4. The Prize shall be awarded annually to the student who stands highest in Latin II. at the annual examinations.

5. If, in the opinion of the examiner, no candidate deserves the Prize it shall not be awarded, and the amount thereof shall be added to and shall become part of the principal sum.

6. Any further regulations respecting the Prize may, from time to time, be made repealing or altering these regulations, provided that such regulations shall have due regard to the objects of the founder of the Prize.

    1917—Hubert Taylor Stables.
    1918—Edith Margaret Horne.
    1919—No award.
    1920—Charles Ripley Bull.
    1921—Marcia Irene Hodges.
    1922—Frank Walter Johnson.
    1923—Harold Walter Bailey.
    1924—Olive Webster.

THE SANDERSON PRIZE IN PHILOSOPHY.

1. The Sanderson Prize shall be of the value of seven guineas approximately, and shall be presented in the form of books.

2.   The Prize shall be awarded to matriculated students of the University, and shall not be awarded more than once to the same student.

3.   The Prize shall be awarded annually to the student who stands highest in Logic and Ancient Philosophy I. at the annual examinations

4.   If in the opinion of the examiner no candidate deserves the Prize, it shall not be awarded.

1917—Olive Jean Maxwell Drummond.
1918—Robert Mackinsosh Macleod.
1919—Charles R.pley Bull
    Effie Josephine Hurman   } Equal.
1920—Hughina Bell.
1921—Talbot Albert Walls Downing.
1922—Alfred Smith.
1923—John Evenden Virtue,
1924—Duncan Howie.

LADY JAMES PRIZE IN SCIENCE.

A prize of the value of £5 may be awarded annually to the student obtaining the highest aggregate marks in Chemistry I. and Physics I. at the Annual Examinations.

1921—Wilby Edison Cohen.
1922—Bruce Oliver Bradshaw
    Eric Mervyn Watson   } Equal.
1923—Philip Cornelius Hogan.
1924—Karl Rutherford Allen.

AMY SAW SCHOLARSHIP.

1.   The Scholarship shall be known as the Amy Saw Scholarship and shall be of the value of £100.

2.   The Scholarship shall be open to all matriculated students who have completed two years for a degree of Bachelor of Science, either in Pure Science or in Agriculture, and are attending lectures in the subjects for the third year of such course.

3.   The Faculty of Science shall report to the Professorial Board on the individual applications received, and shall make a recommendation.   The Professorial Board shall consider the individual applications and shall certify to the Senate the name

of the candidate who, in the opinion of the Board, should be awarded the Scholarship. When this certificate is approved by the Senate the Scholarship shall be awarded to the candidate so named.

4. The holder of the Scholarship shall pursue his studies at the University of Western Australia or proceed to another University or Institution approved for this purpose by the Professorial Board, at which facilities for scientific research are available.

5. The object of the founder being to encourage advanced scientific study or research, the amount of the Scholarship shall not be paid over to the selected candidate until he has obtained the degree to which he is proceeding in the University of Western Australia when he applies for the Scholarship.

6. Applications for the Scholarship must be submitted in triplicate to the Vice-Chancellor not later than the third Tuesday in August in each year, and must contain particulars of the course of study or research which the candidate proposes to pursue.

  1922—Laurence John Hartley Teakle.
  • 1923—Wilby Edison Cohen.
  1924—Eric Mervyn Watson.

SCHOLARSHIPS AND PRIZES.

THE HENRY SEELIGSON (SENIOR) SCHOLARSHIP.

(Open for competition, November, 1927.)

REGULATIONS.

1. The Scholarship shall be known as "The Henry Seeligson (Senior) Scholarship," be tenable for a period of three years, be of the annual value of £60, and be held only during the pleasure of the Senate.

2. The Scholarship shall in the first instance be open for competition by students who intend to sit for the Leaving Certificate Examination, qualify for Matriculation in the Faculty of Science, and enter upon a course in Agricultural Science, and who during the month of October immediately prior to the examination comply with rule 8 below.

3. If no such candidate notifies his intention to compete under rule 8 below, or if no such candidate is awarded the Scholarship, then the Scholarship shall be open for competition by students who, having obtained the Leaving Certificate and having qualified to enter upon a course in Engineering or some branch of Science other than Agriculture, shall comply with the provisions of rule 8 below.

Notice shall be given in such manner as the Professorial Board thinks fit of the date when students who desire to submit for competition must under this rule notify their intention under rule 8 below.

4. No candidate shall be more than twenty years of age at the date when he gives notice in compliance with rule 8 below.

5. The Scholarship shall be awarded to the candidate who at the Leaving Certificate Examinations obtains such a total number of marks in the following subjects, namely, English, French or German, and Mathematics as satisfies the Professorial Board that the candidate should be awarded the Scholarship.

If the Professorial Board so desires, however, it may require that candidates or the most meritorious of them submit to a further and special examination on such subjects as the Board thinks fit.

The Professorial Board may decline to recommend any candidate as being entitled to the Scholarship.

6. The Professorial Board shall certify to the Senate the name of the candidate who, in its opinion should be awarded the Scholarship, and when this certificate is approved by the Senate, the Scholarship shall be awarded to the candidate so named.

7. Should the successful candidate be already or thereafter become entitled to receive a Government Exhibition, he shall only be competent to hold or continue to hold the Henry Seeligson (Senior) Scholarship provided he relinquishes the Government Exhibition.

8. Every candidate who desires to compete under rule 2 shall give to the Registrar of the University, in the month of October, notice in writing of his intention to compete, and together with such notice the candidate shall forward to the Registrar (a) a certificate of birth, and (b) a certificate attesting the good character and repute of such candidate and signed by the Headmaster of the candidate's school, and also (c) a similar certificate as to character and repute signed by a clergyman, priest, or minister of the religious denomination to which the candidate belongs and of the district in which the candidate resides, or signed by a Resident Magistrate of such district.

Every candidate who desires to compete under rule 3 shall, on the date fixed by the Professorial Board, by notice under that rule, give to the Registrar a notice in writing of his intention to compete, accompanied by the three certificates aforesaid.

9. The successful candidate shall become enrolled as an undergraduate of the University, and shall enter at once upon a full course of study leading to a Degree, and he shall give his time wholly to his University work, and shall not undertake additional work or enter into any form of employment without the consent of the Senate of the University.

10. The holder of the Scholarship shall be entitled to receive the sum of Sixty pounds per annum, payable in three equal instalments in each year. But the Senate may for any reason or cause whatever, and without assigning any reason or cause, in its absolute discretion cancel the holder's right to retain the Scholarship and his right to receive any part of the annual sum.

11. At the end of each year the Professorial Board shall present to the Senate a report whether or not the holder of the Scholarship has made satisfactory progress, and if the report be unfavourable the Senate shall revoke the Scholarship.

12. The Senate may add to or modify the terms of this schedule whenever it is found difficult or impracticable to carry out the donor's wishes as above indicated without addition or modification.

1921—Thomas Charles Dunne.

W. H. VINCENT SCHOLARSHIP.

(Open for competition, November, 1926.)

REGULATIONS.

1. The Scholarship shall be known as "The W. H. Vincent Scholarship," be tenable for a period of three years, be of the annual value of £60, and be held only during the pleasure of the Senate.

2. The Scholarship shall be open for competition by male students sitting for the Leaving Certificate Examination who qualify for Matriculation in the Faculty of Science and intend thereafter to enter upon a course in Agricultural Science, and who, during the month of October immediately prior to the examination, comply with rule 8 below.

3. If no such candidate notifies his intention to compete under rule 8 below, or if no such candidate is awarded the Scholarship, then the Scholarship shall be open for competition in the year following.

4. No candidate shall be more than twenty years of age at the date when he gives notice in compliance with rule 8 below.

5. The Scholarship shall be awarded to the candidate who, at the Leaving Certificate Examination, obtains such a total number of marks in the following subjects, namely, English, Mathematics, and a Science (Physics *or* Chemistry *or* Biology *or* Geology *or* Agricultural Science) as satisfies the Professorial Board that the candidate should be awarded the Scholarship. If the Professorial Board so desires, however, it may require that candidates, or the most meritorious of them, submit to further examination on such subjects as the Board thinks fit. The Professorial Board may decline to recommend any candidate as being entitled to the Scholarship.

6. The Professorial Board shall certify to the Senate the name of the candidate who in its opinion should be awarded the Scholarship, and when this certificate is approved by the Senate the Scholarship shall be awarded to the candidate so named.

7. Should the successful candidate hold or thereafter become entitled to receive a Government Exhibition or another Agricultural Scholarship, he shall only be competent to hold or continue to hold the W. H. Vincent Scholarship, provided he relinquishes the Government Exhibition or other Agricultural Scholarship.

8. Every candidate who desires to compete under rule 2 shall give to the Registrar of the University, in the month of October, notice in writing of his intention to compete, and together with such notice the candidate shall forward to the Registrar (a) a certificate of birth and (b) a certificate attesting the good character and repute of such candidate, and signed by the Headmaster of the candidate's school, and also (c) a similar certificate as to character and repute signed by a Clergyman, Priest, or Minister of a religious denomination to which the candidate belongs, and of the district in which the candidate resides or signed by the Resident Magistrate of such district.

9. The successful candidate shall become enrolled as an Undergraduate of the University, and shall enter at once upon a full course of study leading to the Degree of Bachelor of Science in Agriculture, and he shall give his time wholly to his University work, and shall not undertake additional work

or enter into any form of employment without the consent of the Senate of the University.

10. The holder of the Scholarship shall be entitled to receive the sum of £60 per annum, payable in three equal instalments in each year. But the Senate may for any reason or cause whatever, and without assigning any reason or cause in its absolute discretion, cancel the holder's right to retain the Scholarship and his right to receive any part of the annual sum.

11. At the end of each year the Professorial Board shall present to the Senate a report whether or not the holder of the Scholarship has made satisfactory progress, and if the report be unfavourable the Senate shall revoke the Scholarship.

12. The Senate may add to or modify the terms of this schedule whenever it is found difficult or impracticable to carry out the donor's wishes as above indicated without addition or modification.

<div style="text-align:center">

1921—Alick Wild.

1924—Francis Osborne Grogan.

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GOVERNMENT UNIVERSITY EXHIBITIONS.

1. Ten exhibitions, to be held at the University of Western Australia, shall be open for competition to any boy or girl under the age of 19 years on the first day of December in the year in which the examination is held, who shall have been a resident in the State of Western Australia for a period of one year at least previous to the holding of the examination provided for by these rules.

2. The said exhibitions shall be tenable for a period of three years and shall each be of the value of £40 per annum in the case of students who are able to live at home while attending the University, and of £60 per annum in the case of students who are obliged to live away from home in order to attend the University. The Minister shall be the sole judge in case of any question as to the necessity for a student's living away from home.

An Exhibitioner who is proceeding to an Honours Degree in Arts or Science may have his Exhibition prolonged for a

fourth year, if the results of his three years' work are thoroughly satisfactory.

An exhibition held by an Engineering student may be prolonged for a fourth year, with the approval of the Minister, if the results of his three years' work are thoroughly satisfactory, and for a fifth year, if his fourth year's work is thoroughly satisfactory.

3. Candidates for these exhibitions shall be required to pass the Leaving Certificate Examination and to satisfy the Department that they have reached the necessary standard for Matriculation in all such subjects as are prescribed by the University. No candidate shall be eligible for an Exhibition unless he has passed in English for the Leaving Certificate, either at the examination for which he competes for an Exhibition, or at some previous examination.

4. (a) One Exhibition will be awarded to the candidate who obtains the highest marks in English and either History or Geography, one to the candidate who obtains the highest marks in Latin and Greek, one to the candidate who obtains the highest marks in French and German, one to the candidate who obtains the highest marks in Mathematics and either Applied Mathematics or Physics, and one to the candidate who obtains the highest marks in any two of the following:— Biology, Geology, Chemistry, Physics, Agricultural Science: Provided that if the Minister considers that no candidate of sufficient merit has presented himself in any of the above groups, the exhibition in question shall be awarded on the same conditions as the remaining five.

(b) The remaining five exhibitions shall be awarded to the five candidates who, after the exclusion of any who have been successful in gaining exhibitions under section (a), have obtained the highest aggregates in any five subjects in which they have passed the examination.

(c) The Minister reserves to himself the right to withhold all or any of the above exhibitions in the event of candidates not showing sufficient merit.

5. Every competitor shall give to the Education Department not less than eight weeks' notice of his intention to compete at such examination, such notice to be computed from

the date of the examination, and, together with such notice, shall forward to the Education Department (a) a certificate of birth, and (b) two certificates attesting the good character and repute of the competitor, one signed by the head master of the school which he has been attending, and one by some person holding a prominent position in the district in which the competitor lives.

6. The Exhibitions shall be held subject to the following conditions, namely:—

     (a) A successful candidate shall, as soon as the Regulations of the University will allow, become enrolled as an undergraduate of the University.

     (b) An exhibitioner shall enter at once upon a full course of study leading to a Degree.

     (c) He shall begin residence at the University to which he may have been admitted as soon after such admission as the Regulations of such University shall allow.

     (d) He shall give his time wholly to his University work, and shall not undertake additional work or enter into any form of employment without the consent of the Education Department and the Professorial Board.

7. The holder of an Exhibition shall be entitled to receive the said sums of £40 or £60 by three equal instalments, payable at any time when he has furnished proof that he has satisfactorily completed his term, subject to the production of such certificates or other evidence as the Education Department may from time to time direct.

8. An Exhibitioner who desires to study Law or Medicine may be granted permission to hold his Exhibition at some other approved University, provided that he has passed those examinations in the University of Western Australia which are accepted by the other University in question as exempting from a part of the course in Law or Medicine. His Exhibition may be prolonged for a fourth year if the results of his three years' work are thoroughly satisfactory. A medical student may have his Exhibition further prolonged for a fifth year, if his fourth year's work is thoroughly satisfactory.

9. The Education Department may from time to time, with the approval of the Governor, revoke, add to, or amend these rules.

10. An additional Exhibition will be awarded annually to a candidate who is prepared to take the course prescribed for the Degree of Bachelor of Science in Agriculture. The Exhibition will be of the same value as the others and will be tenable, on the same conditions, for three years, during which the course prescribed for the Degree of B.Sc. in Agriculture must be followed.

Candidates for this Exhibition must pass in the following subjects in the Leaving Certificate Examination:—

> English,
> Another language,
> Mathematics,

and one of the following subjects:—

> Agricultural Science, Biology, Chemistry, Geology, Physics.

NOTE.—This copy of the Regulations regarding the Government Exhibitions has been supplied by the Education Department and is given here merely for the convenience of candidates. Candidates should, however, make themselves acquainted with any alterations that may be made from time to time, and all inquiries regarding these Exhibitions should be made at the Education Department and not at the University Offices.

1851 EXHIBITION RESEARCH SCHOLARSHIPS.

Two of these Scholarships are awarded annually to Graduates of the Australian Universities, the final selection being made by the Royal Commission for the Exhibition of 1851 in London.

UNIVERSITY LIBRARY.

RULES FOR THE MANAGEMENT OF THE UNIVERSITY LIBRARY.

1. The use of the University Library is restricted to—

    (a) students enrolled at the University for the current session;

    (b) members of the University Staff;

    (c) members of the University Senate.

No other person is entitled to use the Library.

2 (a) During University Terms the Library will be open Monday to Friday inclusive 9 a.m. to 1 p.m., 2 p.m. to 5 p.m., and 6 p.m. to 9 p.m., Saturday 9 a.m. to noon. During University Vacations the Library will not be open in the evening.

(b) The Library shall be closed on Sundays and University Holidays, and at such other times as the Library Committee may direct.

(c) During the long vacation the Library shall be open during times to be arranged by the Library Committee.

3. No person shall be allowed to use any book until it has been stamped and entered in the catalogue.

4. The Library shall be available to students purely as a reference library and students are not permitted to take any book from the reading room, except as hereinafter provided in Clause 5.

5. Certain books in the Library may be obtained on loan by students from the Librarian or through the Head of the Department concerned. All such books shall be delivered by the Head of the Department to the student only on receipt of a signed acceptance of the book, and the book must be returned within seven days to the Head of the Department. No student shall be permitted to have in his possession at one time more than three books under this rule.

6. Each member of the teaching staff or of the Senate is permitted to take books from the Library, but is not allowed to have in his possession for other than departmental use more than three volumes belonging to the Library. Such books shall be returned to the Library within a fortnight of the date of issue, provided that any book shall be returned whensoever the borrower is required to do so by the Librarian, and that all books borrowed under this rule shall be returned on or before the last day of the current term.

7. Books borrowed by a member of the Teaching Staff for departmental use shall be limited to 50 works, and shall be returned to the Library at the end of each term, if required by the Librarian.

8. No book shall be taken from the Library under the foregoing rules until an entry has been made in the book provided for the purpose.

9. Readers or borrowers of books shall be held responsible for any injury, mutilation, or disfigurement by writing or other marks, and shall be required to pay the full value of the books so injured and may also be suspended from the privileges of the Library at the discretion of the Committee.

10. Books specially marked by the Librarian must not be taken from the Library.

11. These rules shall not apply to such books as may be stamped for departmental use only on approval given by the Library Committee after consultation with the Head of the Department.

TIME TABLE OF LECTURES AND LABOR-ATORY WORK FOR 1925. FACULTIES OF ARTS AND SCIENCE.

Hours after 6 p.m. are marked " e "

Subject	Page	M.	Tu.	W	Th.	F.	S
Agricultural Bacteriology		..	4	.		. .	...
Agricultural Botany, Lecture and Laboratory		2–5	...	.	..	.	. .
Agricultural Chemistry, Lecture and Laboratory			10–1	.	10–1	9	.
Ancient Philosophy			9	.	9	10	.
Applied Mathematics II. .		.	10	.	10	.	...
Applied Mathematics III.			.	.			...
Astronomy and Geodesy		.	.	.	5	.	. .
Bacteriology and Economic Entomology, Lecture and Laboratory		. .	2–5	.	...		...
Biology I, Lecture and Laboratory	4	9–1	.	2–5	.	...	
Botany II., Lecture and Laboratory		9–1	. .	.	.	2 5	9–1
Chemistry I. .	11	. .	11		9		
Chemistry I., Laboratory, A. Division	2–4	. .	.		11–1		
Chemistry I , Laboratory B Division		. .	. .	...	. .	2–4	10-12
Chemistry II. . .	9	. .	9 & 12	. .	9	...	
Chemistry II., Laboratory .	10–5	.	...	.	10–5	.	
Chemistry III	9	9		9	9		
Chemistry III , Laboratory .	.	10–5	..	9–1	.	10–5	
Economics A.	5	.	5	.	.	9	
Economics B. . .	.	8e	...	8e	.	. .	
Education	4	.	6	.	6	...	
Engineering Chemistry *	.	9	.	9	. .	. .	
Engineering Chemistry, Laboratory *	...	10–5	.		.	. .	
Engineering Physics * ..		11	...	11	. .	..	
Engineering Physics, Laboratory *	.	2–5	. .	.	..	..	
English I.	12	.	12		12	...	
Do	8e	...	8e	.	5	...	
English II. and III. ...	11	...	11	..	11	. .	
Do. . .	7e	.	7e	.	5	...	
Ethics	8e	...	8e		7e	...	
French I.	5	7e		5 & 7e	. .	...	
French II. and III. ..	10	.	10	.	...	...	
Do.	...	7e	...	7e	. .	..	
French II. and III., Conversation	.	. .	.	4–6	...	.	
French Honours ..	12	. .	12	.	...	...	

* First and second terms only.

TIME TABLE—*continued*

Hours after 6 p.m. are marked " e."

Subject.	Page	M.	Tu.	W	Th.	F.	S.
Geology I, Lecture and Laboratory		..	2–5	.	9–12	...	...
Geology II. ..	4		..	.	2		...
German I. ..	4	4	6		12	.	.
German II and III.	9	6	9		.		..
Greek I. ...	10		.		10	3	...
History ..		.	11		11	.	11
Do. ...		.	8e			8e	...
Latin I		..	7e	5		7e	...
Latin II. and III		5	5	5		.	...
Logic and Psychology		.	.	9	..	9	...
Do ..		6		6		6	..
Mathematics I		9		9		9	.
Mathematics II.		12	12		12	.	
Mathematics III		12	.	12	..	12	..
Modern Political Institutions			5		5	..	.
Physics I		10	..	10	.	10	..
Physics I, Laboratory, A Division		.		..		2–4	
Physics I., Laboratory, B Division		2–4			.	.	...
Physics II		.	11	..	11	..	...
Physics II., Laboratory		.	2–5	.		.	...
Physics III.		11				11	..
Physics III., Laboratory		2–5			..	2–5	.
Plant Pathology, Lecture and Laboratory		.	2–5	.	.	..
Principles of Agriculture			12	.	12	10	...
Veterinary Anatomy		10		.	.	..	..
Veterinary Hygiene			11	.	.	...
Veterinary Pathology		11	.	.	.	..
Veterinary Physiology .			10	.	.	...
Zoology II, Lecture and Laboratory		2–5	.	9–1		9–1	..
Zoology II, Lecture and Laboratory (3rd Year only)		..		.	2–5	..

Details of Lecture and Examination Subjects for 1925.

FACULTIES OF ARTS, SCIENCE, AND ENGINEERING.

DEPARTMENT OF AGRICULTURE.

Professor Paterson.

PRINCIPLES OF AGRICULTURE.

The course consists of about 100 meetings for lectures and laboratory work, and is illustrated by diagrams, specimens, and lantern slides.

Introduction —Different kinds of agriculture. Effect of environment on agricultural development. Aid given by the allied sciences.

Methods of Soil Improvement.—Practice and cost of drainage, irrigation, liming, mixing, and clearing, fencing, ploughing, subsoiling, cultivating, harrowing. Roads.

Crops.—Methods of cultivation, seeding, manuring, after management, harvesting, and utilisation of the principal field crops of Western Australia. Seed improvement.

Rotations.—Continuous wheat. Wheat, fallow, fodder crops, pasture and green manuring in rotation. Good and bad rotations. Immediate and deferred returns. Considerations in the choice of rotations.

Pasture.—Extensive and intensive farming. Improvement of pasture. Amount and distribution of rainfall as it affects pasture. Poison plants and weeds.

Live-stock.—Breeds and management of horses, cattle, sheep, and pigs. Diets for milch stock, fattening stock, and horses, poultry.

The Dairy.—Milk records. Principles of management of milk, butter, cheese. Calf rearing.

Farming Capital.—Costs of stocking and working farms. Rent, taxes and costs of labour.

Books Recommended.—"The Farmers' Handbook" (*Dept Agric., N.S.W.*). Paterson's "Nature in Farming" (*Govt. Printer, Perth*). Fream: "Elements of Agriculture" (*Murray*).

AGRICULTURAL CHEMISTRY.

The course comprises about 75 lectures illustrated by specimens, experiments, and diagrams, and is intended for students who have previously attended a course in General Chemistry. Excursions will be made to places of technical interest as opportunity offers. Division I. of this course will be given during the first and second terms, and Division II., dealing with more advanced phases of the subject, will be given during the third term. Candidates for the Diploma will take Division I. only; those working towards a Degree will take the complete course.

History and Scope of agricultural chemistry.

The Plant.—Composition and analysis. Chemical aspects of germination and growth. The essential food materials. Plant toxins.

The Atmosphere.—Essential and useful constituents. Heat, light, and rainfall. Weather forecasts.

Soils.—Nature and formation. Classification. Chemical changes in soils. Movements of water and air in soils. Nitrification and the biology of soils. Causes of infertility in soils. Soil analyses.

Manures.—The principles of manuring. Farmyard manure green manuring and lime. Origin and manufacture of light manures. Fate of manures in the soil. Interpretation of analyses.

Crops.—Classification and special requirements. Experimental error in field trials. Rotation of crops. Composition of crops. Changes during ripening and storage. Hay-making and ensilage.

Animals.—Composition and nutrition. Proximate constituents of foods. Digestion co-efficients, and heat values. Relation of foods to animal requirements. Mixing, cooking, and spicing foods. Relation of foods to manure.

The Dairy.—Composition of milk. Chemical and physical characters of the various constituents. Changes on keeping milk. Milk standards. Butter, cheese, whey.

Antiseptics and Disinfectants.—Dipping, spraying, and pickling agents. Properties and adulterations.

BOOKS RECOMMENDED.—Ingle: "Manual of Agricultural Chemistry" (*Scott Greenwood*). King: "Physics of Agriculture" (*Author, Madison, Wis.*). Hilgard: "Soils" (*Macmillan*). Murray: "Chemistry of Cattle Feeding and Dairying" (*Longmans, Green*).

For Consultation.—Richmond: "Dairy Chemistry" (*Griffin*). Henry: "Feeds and Feeding" (Author, *Madison, Wis.*).

PRACTICAL AGRICULTURAL CHEMISTRY.

The course will consist of about 60 meetings, and is adapted for students who have already performed the First Year Course in General Chemistry or its equivalent. The work will be mainly quantitative. Students will conduct separate analyses of manures, fodders, and dairy products, and gain some experience in the testing

of soils and drinking waters. Exercises will be set on the interpretation of commercial analyses, and the valuation of materials employed in agriculture.

AGRICULTURAL SCIENCE.

This course, which is an option in the Arts curriculum, consists of lectures and laboratory work, and will be given if a sufficient number of enrolments are received. It is confined to a discussion of natural laws underlying the phenomena of agriculture, and is concerned with the relation of cause and effect in farming practice. No attempt is made to describe the details of agricultural operations, and the course is viewed as one in general science. The subjects treated include:—The atmosphere, matter and energy, meteorology, chemical constitution, soils, the plant, fertilisers, water in soils, soil temperatures, crops, fungous parasites, insect pests, farm animals, animal foods, milk, bacteria, vegetable fibres, wool and silk.

BOOKS RECOMMENDED.—Paterson : ''Nature in Farming'' (*Govt. Printer*, Perth). Parrish: ''Chemistry for Schools of Science'' (*Macmillan*). Dendy and Lucas: ''Introduction to the Study of Botany'' (*Melville and Mullen, Melbourne*) ; or other works of similar grade.

AGRICULTURAL LABORATORY.

Practical instruction in agricultural chemistry and research work will be given daily from 10 a m. to 4 p.m., by the Professor of Agriculture or his assistant. The work here is intended to amplify the instruction in the practical class of agricultural chemistry, and thus enable a student to specialise in the subjects taught. Students who desire to undertake some particular line of research may be admitted for this purpose alone, but must afford evidence of their qualifications for the task, and that the subject of investigation is one whose solution will benefit the agricultural industry.

PREPARATORY FARM CHEMISTRY.

This course is intended for candidates for the Diploma in Agriculture, and is covered by Chemistry I. at the Perth Technical School (lectures and laboratory), together with a series of lectures on farm chemistry at the University during the third term.

HORTICULTURE AND DAIRYING.

Each course will consist of ten lectures and demonstrations and will be given during the third term of session 1925 by Messrs. G. W. Wickens and P. G. Hampshire respectively of the State Department of Agriculture.

AGRICULTURAL BOTANY.

This course will comprise 20 lectures and 40 hours' practical work, and will be given by Mr. W. M. Carne (Government Botanist), of the Department of Agriculture.

Seeds.—Growing, harvesting, grading, storage. Testing. Legislation. Treatments for fungi, etc. Requirements for germination. Causes of poor germination. Macrobiotic seeds.

Asexual Reproduction.—Bulbs, corms, rhizomes, tubers, suckers, layers, cuttings. Grafting and budding.

Care of Plants.—Relation of crop and plant to climate, soil, etc. Weeds and their control. Pruning.

Plant Classification.—The principal economic families and their products. Recognition of common weeds, poisonous and useful plants.

Pastures.—Formation, constitution, and care.

Plant Breeding.—Principles underlying, and methods used.

Forestry.—General aspects in relation to State and farmer.

REFERENCE BOOKS.—Percival: ''Agricultural Botany.'' Black: ''Introduced Plants of South Australia.'' Robbins: ''Botany of Agricultural Plants.

PLANT PATHOLOGY.

This course will comprise 20 lectures and 40 hours' laboratory practice, and will be conducted by Mr. Carne.

History of Plant Pathology.

Disease. Definition. Symptoms. Methods of investigation.

Constitutional and inherited disorders. Undesirable mutations and Mendelian segregations. Inherited susceptibility to disease.

Disorders due to non-living environment. Relation to water, soil, air, temperature, etc., to health.

Disorders due to living environment.

Parasitic diseases. Dissemination of disease. Susceptibility and resistance.

Myxomycetes, Schizomycetes, and Phycomycetes. Their principal features and classification Principal diseases of economic plants due to organisms and their control. Fungi and bacteria in useful relation to plants. Parasite plants.

Nematode parasites of plants.

Laboratory work. Recognition of diseases. Use of microscope. Preparation and staining of material. Section cutting. Spore germination, isolation and culture of organisms, artificial infection, etc.

REFERENCE BOOKS.—Duggar: ''Fungous Diseases of Plants.'' Stevens: ''Fungi which cause Plant Disease.'' Chamberlain: ''Methods in Plant Histology.'' Erwin Smith: ''Bacterial Diseases of Plants.''

GENERAL NOTES.

Students proceeding to the degree of B.Sc. in Agriculture will find the details of other courses given under the respective Departments. In addition they are advised :—

Economics. The course for agricultural students is covered by Economics A. (See Department of History and Economics.)

For Agricultural Bacteriology and Economic Entomology *see* Department of Biology.

Agricultural Engineering is covered by Heat Engines (1 term), and Hydraulics (1 term), with practical work on Heat Engines and Hydraulics (see Department of Engineering).

Land Surveying and Field Work will be covered by ordinary surveying with field work (Department of Engineering).

DEPARTMENT OF BIOLOGY.

PROFESSOR NICHOLLS.

MISS D. F. MILNER.

Miss WRIGHT.

BIOLOGY I.

This course consists of about 80 lectures delivered during the three terms, with five hours' practical work per week. Students who intend taking Zoology or Botany as a degree subject should take this course during the first year.

TEXT BOOKS.—Marshall: The Frog (*Macmillan*). G. C. Bourne: Comparative Anatomy of Animals, 2 Vols. (*G. Bell & Sons*). Bower and Gwynne-Vaughan: Practical Botany (*Macmillan*). Fritch and Salisbury: An Introduction to the Structure and Reproduction of Plants.

ZOOLOGY II.

The course will extend over two years, and will be divided as follows.—

Course *A.*—General zoology of the invertebrata.

Course *B* – General zoology of the vertebrata.

Each of these courses extends over one year, and consists of about 100 lectures with practical work.

Course *C.*—A certain number of lectures with practical work in one of the following courses approved by the Professor must be attended in the third year:

1. Embryology.
2. Heredity and evolution.
3. Parasitology.

HONOURS IN ZOOLOGY.

For honours a fuller treatment of the above will be expected, and in the honours year the student will be required to carry out some research work under the direction of the Professor.

TEXT-BOOKS.—Parker & Haswell: Text Book of Zoology (*Macmillan*). Dendy: Outlines of Evolutionary Biology (*Constable*).

For Consultation.—The Cambridge Natural History. Ray Lankester: Treatise on Zoology. Delage and Herouard: Zoologie concrete. MacBride: Text-book of Embryology. Prentiss: Text-book of Embryology. Wiedersheim: Vergleichende Anatomie der Wirbeltiere. Bronn: Das Tierreich. Schneider: Histologie der Tiere. Brumpt: Précis de Parasitologie. J. A. Thomson: Heredity. R. H. Lock: Variation, Heredity, and Evolution (*Macmillan*). Marshall & Hurst: Practical Zoology (*Smith, Elder & Co.*).

BOTANY II.

The course will extend over two years.

(a.) Life History and classification. The outlines of general morphology, external and internal, embryology, phylogeny, and Palæobotany.

(b.) Outlines of Physiology.

(c.) Outlines of Ecology

(d.) Elementary Plant Pathology.

HONOURS IN BOTANY.

Honours students will, in addition to the pass subjects, attend other special courses and should be well acquainted with Botany in all its branches, including—

1. Morphology, Anatomy, and Histology of the Plant-body.
2. The Physiology of Plants.
3. Heredity and Evolution.
4. Ecology.
5. Phylogeny of Plants.
6. Geographical Distribution.
7. History of Botany.

TEXT-BOOKS.—Strasburger: Text-book of Botany. Campbell: Mosses and Ferns. Bower: Origin of a Land Flora. Scott: Studies in Fossil Botany. Willis: Flowering Plants and Ferns. Bower: Botany of the Living Plant.

For Reference.—Coulter and Chamberlain: Morphology of Gymnosperms. Coulter and Chamberlain: Morphology of Angiosperms. Duggar: Plant Physiology. Duggar: Fungus Diseases of Plants. Haberlandt: Physiological Plant Anatomy. Schimper: Plant Geography. Pfeffer: Physiology of Plants. Warming: Ecology of Plants. West: Algae.

General Note:

Students taking Zoology or Botany Part II. as a major subject will be expected to show a wider knowledge of the branches of their subject than those taking it as a minor subject.

ECONOMIC ENTOMOLOGY.

Lectures with demonstration and laboratory work.

The Insecta.—General characteristics. The Cockroach. External characters and internal anatomy. Mouth parts of insects. Wings of insects. Types of metamorphosis.

Classification of the Insecta.

Insect Pests of Garden and Field Crops.

Insect Pests of Orchards.

Insect Pests of Stored Products

Insect Pests of Man and Domestic Animals.

Insects and Disease.

Beneficial Insects.

AGRICULTURAL BACTERIOLOGY

A course of lectures with demonstrations extending through one term.

Bacteria--

Morphology and physiology.
General bacteriological technique.
Preparation of culture media.
Sterilisation, isolation, and cultivation.
Staining and microscopic examination.
Bacteriological examination of water, soil, and milk.
Influence of bacteria on the soil.
Relation of bacteria to dairy products, cheese, and butter manufacture.

General Notes:

The first year's course in Biology is intended as an introduction to Biological Science. It will be treated broadly, and arranged so that the lectures should prove useful to arts students desiring some knowledge of modern biological thought.

Advanced students taking Zoology and Botany will be expected to attend Field Excursions, and it is expected that at least a week will be spent at some place where field work can be carried on under the supervision of the Staff.

DEPARTMENT OF CHEMISTRY.

PROFESSOR WILSMORE.

ASSOCIATE PROFESSOR TATTERSALL,

MR. P. BABINGTON.

Student Demonstrators—Mr. F E. HUELIN, Mr. C. R. KENT, Mr. E. M. WATSON.

CHEMISTRY I.

Elementary Inorganic, and Physical Chemistry with some Organic Chemistry

Chemistry in ancient and mediæval times. Alchemy. Iatrochemistry Chemistry in the 17th Century The rise and fall of the Phlogiston hypothesis The discovery of oxygen and of the real nature of combustion, calcination, and rusting

Scope of Chemistry. Chemistry as an art and as a science. Matter and energy. Chemical and physical change. States of aggregation of matter. Reversible and irreversible chemical change

Water, oxygen, hydrogen Elements, mixtures, solutions, compounds Atmospheric air. Combustion in air and in oxygen. Heat of combustion and of other chemical reactions Oxides. Acidic and basic oxides. Acids and bases. Salts.

Common salt. Chlorine. Hydrogen chloride.

Carbon. Carbon monoxide Carbon dioxide. Carbonic acid and carbonates.

Fundamental laws of stoichiometry. Laws of conservation of mass, definite proportions, multiple proportions, and reciprocal proportions. Equivalents.

Properties of gases Boyle's law Dalton's law of partial pressures. Charles' law. Absolute temperature. Gases and vapours. Vapour pressure Critical temperature and pressure Gay Lussac's law of combining volumes

Atoms and molecules Avogadro's hypothesis. Density of gases and vapours Molecular and atomic weights. Chemical notation and equations. Atomic and molecular heats ; laws of Dulong and Petit and of Neumann. Crystals and crystallography. Mitscherlich's law of isomorphism. Kinetic theory of gases and deviations from the simple gas laws

Ozone and hydrogen peroxide. Allotropy. Reversible reactions. Chemical equilibrium Principle of Le Chatelier. Catalysis.

The halogens. Hydrogen halides and their salts. Oxides and oxyacids of the halogens. Salts of the oxy-acids. Bleaching powder.

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*Previous knowledge of chemistry is not compulsory for students entering for Chemistry I., but students are warned that without some previous knowledge of the subject they will probably find the pass standard difficult to reach in one year.

Sulphur. Allotropy and polymorphism. Transition point. Sulphur and hydrogen Sulphur and the halogens Oxides and oxy-acids of sulphur. Salts of the oxy-acids. Selenium and tellurium and their more important compounds.

Nitrogen Nitrogen and hydrogen Nitrogen and the halogens. Oxides and oxy-acids of nitrogen. Salts of the oxy-acids. The "nitrogen cycle" Fixation of atmospheric nitrogen

The gases of the helium group. Spectroscopy.

Phosphorus Phosphorus and hydrogen. Phosphorus and the halogens Oxides and oxy-acids of phosphorus Phosphites and phosphates Phosphorus and sulphur

Arsenic. Arsenic and hydrogen. Arsenic and the halogens. Oxides and oxy-acids of arsenic Arsenites and arsenates Arsenic and sulphur.

Carbon and its oxides in more detail. Carbonic acid and carbonates. Oxalic acid and oxalates. Carbon and the halogens Carbon and sulphur. Carbon and nitrogen ; cyanogen and its compounds. The principles of organic chemistry in brief outline. Paraffin hydrocarbons. Atomic linking. Homologous series Isomerism Petroleum Substitution, Alcohols, Ethers, Aldehydes, Ketones Fatty acids Acid chlorides and anhydrides. Esters. Amines. Unsaturated hydrocarbons and some of their typical derivatives Oleic acid. Glycerol Fats Drying oils Soap. Carbohydrates Lactic, tartaric and citric acids Amino-acids Benzene and its simpler homologues. Coal tar Aromatic nitro-compounds and amines. Phenols Aromatic acids and hydroxy-acids Naphthalene. Anthracene.

Silicon. Carborundum. Silicon and the halogens. Silica and silicates. Boron Boric acid and borates.

Solutions. Osmotic pressure and allied phenomena. Determination of molecular weights of substances in solution Electrolysis. Faraday's laws of electrolysis. Ionic hypothesis Conductivity. Ionic transport. The galvanic cell. Solubility product. Hydrolysis.

Systematic study of the metals and their compounds based on the natural system of classification (Periodic Law). (*Metals, the names of which are enclosed in brackets, will be treated very briefly*) (Lithium), sodium, potassium. (Glucinum), magnesium, calcium, strontium, barium, radium. Aluminium. (Titanium), (cerium), (thorium), Chromium, (tungsten), (uranium), Manganese, iron, cobalt, nickel, (Palladium), (osmium), (iridium), platinum, Copper, silver, gold, zinc, cadmium, mercury. Tin, lead Antimony, bismuth.

Practical Work.

Simple inorganic preparations.

Simple gravimetric analysis. Determination of equivalent weights. Volumetric analysis involving acidimetry and alkalimetry, oxidation and reduction, iodimetry, precipitation.

Identification in both the dry and wet way of single substances containing the more important acidic and basic radicles.

BOOKS RECOMMENDED.—Alex. Smith : "Introduction to Inorganic Chemistry" (*Bell*), Lewis : "Elements of Organic Chemistry " (*University*

Tutorial Press), or Cohen: "Class Book of Organic Chemistry," Vol. I. (*Macmillan*). Coward and Perkins: "Exercises in Chemical Calculation" (*Arnold*). Dobbin and Marshall: "Salts and their Reactions" (*Simpkin, Marshall*). *For Revision.*—Holmyard: "Inorganic Chemistry" (*Arnold*).

For Consultation.—Lowry: "Inorganic Chemistry" (*Macmillan*). Roscoe and Schorlemmer: "Treatise on Chemistry," Vols. I. and II. (*Macmillan*).

CHEMISTRY II.

The course will comprise advanced inorganic, organic, and physical chemistry, including electro-chemistry. Important technical processes will also be considered.

The *Laboratory Work* will include the preparation and purification of inorganic and organic substances; qualitative and quantitative analysis of compounds, mixtures, alloys, and minerals containing the commoner acidic and basic radicles; qualitative and quantitative analysis of organic substances; and practical physical and electrochemistry. Minimum—10 hours per week.

CHEMISTRY III.

Further study of the various branches of Chemistry prescribed for Chemistry II.

Minimum time for Laboratory Work, 15 hours per week.

HONOURS.

Candidates for honours in Chemistry must not less than one year previously to sitting for the examination have attained the Pass Standard in Chemistry as a major subject. The honours course may be completed either in Pure Chemistry or in Technical Chemistry, the choice being subject to the approval of the Professor.

Honours in Pure Chemistry.— Candidates for honours in Pure Chemistry will be required to show that they have a good working knowledge of chemical literature, including the books recommended for consultation and selected original papers in English, French, and German. They will also be required to solve in the laboratory practical problems dealing with inorganic, organic, and physical chemistry, including the detection and estimation of certain of the less common acidic and basic radicles, and to carry out a short research on a selected subject under the direction of the Professor.

Honours in Technical Chemistry.—Candidates for honours in Technical Chemistry will be required to show that they have a good working knowledge of chemical literature, including selected original papers in English, French, and German, special attention being given to literature on applied chemistry and chemical engineering. They will be required to solve in the laboratory special problems

having a technical bearing in inorganic, organic, and physical chemistry. Also previously to sitting for the honours examination they must have attended the following courses, which, with the exception of the first, will be given in the Department of Mining and Engineering :—

> Engineering Physics (Thermodynamics)- -one term.
> Heat Engines with practical work—two terms.
> Hydraulics with practical work—one term.
> Electrical Engineering with practical work—two terms
> Physical Metallurgy with practical work— one term.
> Engineering Drawing —one term.

Questions on the above subjects will be set in the Honours examination

Books Recommended

Reading.—Ostwald "Principles of Inorganic Chemistry" (*Macmillan*), or Lowry : "Inorganic Chemistry" (*Macmillan*). James Walker: "Introduction to Physical Chemistry" (*Macmillan*), or Washburn: "Principles of Physical Chemistry" (*McGraw, Hill*) Le Blanc: "Electro-chemistry" (*Macmillan*). Knox: "Physico-Chemical Calculation" (*Methuen*). Holleman: "Organic Chemistry" (*Chapman and Hall*), or Perkin .and Kipping: ."Organic Chemistry," Parts I. and II. (*Chambers*). Rogers: "Industrial Chemistry" (*Macmillan*).

Practical Work —Treadwell· Analytical Chemistry, Vols. I and II. (*Chapman and Hall*) or (alternatively to Vol II. of the preceding, for students taking Chemistry II. as a pass subject), Cumming and Kaye Quantitative Chemical Analysis (*Gurney and Jackson*). Biltz· Laboratory Methods of Inorganic Chemistry (*Chapman and Hall*). Cohen : Practical Organic Chemistry (*Macmillan*). Weston: Scheme for the Detection of Carbon Compounds. (*Longmans*). Clarke: Handbook of Organic Analysis (*Arnold*). Spencer: Experimental Physical Chemistry, Vols. I. and II. (*Bell*).

For Consultation.—Roscoe and Schorlemmer: Treatise on Chemistry, Vols. I. and II. Mellor: Treatise on Inorganic and Theoretical Chemistry. Abegg: Handbuch der anorganischen Chemie; The Textbooks of Physical Chemistry, edited by Sir William Ramsay. Nernst: Theoretical Chemistry. E. von Meyer: History of Chemistry. Thorpe: Dictionary of Applied Chemistry. Fresenius: Qualitative and Quantitative Analysis. Sutton: Volumetric Analysis. Classen: Mass-analyse. Hempel: Gas Analysis. Crookes: Select Methods of Chemical Analysis. Scott: Standard Methods of Chemical Analysis. Gattermann : Practical Methods of Organic Chemistry. Ostwald—Luther: Physikalisch-chemische Messungen. Cohen: Organic Chemistry for Advanced Students, Vols. I. to III. Richter: Chemie der Kohlenstoffverbindungen. Molinari: Chemistry, Vols. I. and II.

ENGINEERING CHEMISTRY.

This course is intended for students in the Faculty of Engineering, who have passed in Chemistry I.

In the lectures such portions of Inorganic, Physical, and Organic Chemistry will be dealt with as are of importance in connection with Engineering; for example, the study of fuel, the chemistry of metals and alloys, cements, and other building materials, explosives, paints, lubricants, water supply, sewage disposal, etc.

The laboratory work will comprise qualitative and quantitative analysis, including the testing of materials used in engineering.

BOOKS RECOMMENDED·

Benson: "Industrial Chemistry for Engineering Students" (*Macmillan*). Hale: "Practical Chemistry for Engineering Students" (*Longmans*).

For Consultation.—Leighou: "Chemistry of Materials." Blount and Bloxam: "Chemistry for Engineers and Manufacturers." Walker, Lewis, and McAdams: "Principles of Chemical Engineering." Rogers: "Industrial Chemistry." Sutton: "Volumetric Analysis." Hempel: "Gas Analysis."

DEPARTMENT OF CLASSICS AND ANCIENT HISTORY

ASSOCIATE-PROFESSOR WOOD.

MR. W. A. LAIDLAW.

LATIN I.

    1. Prose Composition.

    2. Unseen translation, prose and verse.

    3. Outlines of Roman history. (Smith's Smaller History of Rome, rev. Greenidge (*Murray*.)

    4. Prescribed authors :—

        (a.) For critical study :—

            Livy XXI. Pyper (*Clarendon Press*).
            Virgil : Aeneid IX. Sidgwick (*Pitt Press*).

        (b.) For translation and subject matter :—
            Cicero, Pro Roscio Amerino. Stock (*Clarendon Press*).

        (c.) General knowledge of works and literary position of above authors.

LATIN II. and III.

    1. Prose composition.

    2. Unseen translation, prose and verse.

    3. Roman Literature.—More detailed knowledge than for Part I. with special attention to the Silver Age.

4. Roman History.—Outlines (Wells or Smith ; also Stuart Jones : Roman Empire, c.c. I. to V.).

5. Prescribed authors :—

(a.) For critical study : Cicero, Select Letters, Watson. Parts I. and II. (*Clarendon Press*). Juvenal, Satires 1, 3, 4, 8, 10, Duff (*Pitt Press*). Virgil, Georgic I. Sidgwick (*Pitt Press*).

(b.) For translation and subject matter :—Pliny, Selected Letters. Allen (*Clarendon Press*). Horace, Odes II Gow (*Pitt Press*).

LATIN HONOURS.

The examination will always include :—

1. Prose composition.
2. Unseen translation, prose and verse of any period.
3. Roman Literature : History and criticism, the latter only with reference to the authors studied during the four years' course.
4. Roman History—especially from the Gracchi to the death of Augustus.
5. Prescribed authors, for critical study—

1925 : Lucretius III. : Cicero, Letters (Watson, Parts 3–5) ; Virgil, Georgics I. and II ; Horace, Epistle to Augustus (II. I.), and Ars Poetica ; Juvenal, Satires 1, 3, 4, 8, 10 ; Tacitus, Histories II.

1926 : Plautus, Captivi ; Catullus, Select Poems. Simpson (*Macmillan*) ; Cicero. Letters, Watson, Parts I. and II. ; Horace, Odes III., Epistle to Augustus (II. I.) and Ars Poetica ; Tacitus, Annals IV., Juvenal, Satires 1, 3, 4, 7, 8, 10.

GREEK I.

1. Prose composition.
2. Unseen translation, Attic prose and verse.
3. Outlines of Greek history (Oman).
4. Prescribed authors :—

(a.) For critical study :—Thucydides II. c.c. 1–65. Mills (*Clarendon Press*). Euripides, Hercules Furens. Blakeney (*Blackwood*).

(b.) For translation and subject matter :—Demosthenes, Olynthiacs. McGregor (*Pitt Press*). Homer, Iliad I. Monro (*Clarendon Press*).

(c.) General knowledge of works and literary position of above authors.

GREEK II. and III.

1. Prose composition.
2. Unseen translation, prose and verse.
3. Greek Literature—more detailed knowledge than for Part .I with special attention to development of prose.
4. Greek History—Outlines (Oman).

5. Prescribed authors :—
   (a) For critical study—Sophocles, Antigone ; Jebb and Shuck-
   burgh (*Pitt Press*). Thucydides III., cc. 1–85 ; Fox
   (*Clarendon Press*). Homer, Iliad VI. ; Leaf and Bay-
   field (*Macmillan*
   (b.) For translation and subject matter—Lycurgus Leocrates ;
   Petrie (*Pitt Press*). Euripides, Andromache ; Norwood
   (*Murray*).

GREEK HONOURS.

The examination will always include :—

1. Prose composition.
2. Unseen translation, prose and verse of any period.
3. Greek Literature—history and criticism, the latter only with
reference to the authors studied during the four years' course.
4. Greek History especially of fifth century.
5. Prescribed authors, for critical study .—
   1925 :—Homer, Iliad 22 to 24 ; Aeschylus, Agamemnon ;
   Thucydides II. ; Aristophanes, Birds ; Demosthenes,
   Leptines ; Aristotle, Poetics.
   1926 :—Homer, Odyssey 20–22 ; Aeschylus, Agamemnon ;
   Sophocles, Antigone ; Thucydides III. ; Demosthenes ;
   De Corona ; Aristotle, Poetics.

DEPARTMENT OF ENGLISH.

PROFESSOR MURDOCH.
MR. H. S. THOMPSON.

ENGLISH I.

Courses of Lectures on—
   (1.) English Composition.
   (2.) History of the English Language.
   (3.) Outlines of the History of English Literature.
   (4.) The following books :—Chaucer : Clerk's Tale, ed. Sisam
   (*Clarendon Press*) Shakespeare : Coriolanus, Richard II.
   Milton : Samson Agonistes (*Blackie*). Macaulay : Essay on
   Johnson (*Oxford Plain Texts*). Wordsworth : Poems (*World's
   Classics Series*). Ruskin : Selections, ed Benson (*Cam-
   bridge University Press*)
Additional for Distinction—Lamb : Essays of Elia (*Bell*) Browning:
   Selections (*Murray*)

ENGLISH II.

   (1) The History of English Literature, 1780–1860
   (2.) Shakespeare s Comedies
   (3) The following books :—*Wordsworth : Selections. *Keats :
   Selections. *Byron : Selections Hazlitt : Table Talk
   (*World's Classics Ser es*). Landor : Imaginary Conversa-
   tions, ed. Selincourt (*Milford*). *Tennyson : Selections
   Shakespearean Criticism, ed. Nichol Smith (*Milford*).
Additional for Distinction :—English Poetry of the Eighteenth
   Century. Selections from Pope, Johnson, Goldsmith, Gray,
   Collins, Cowper, and Burns.

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* The selections marked with an asterisk will be found in " The English
Parnassus "—Milford.

ENGLISH III.
As for English II. (with Distinction).

ENGLISH—HONOURS DEGREE.
Candidates may be examined on the work of English II. (with Distinction) for 1923 and 1924. For part of the Examination a Dissertation (on an approved subject) may be substituted.

DEPARTMENT OF FRENCH AND GERMAN.

Mr. G. Irving.

Mr. R. M. Graebner.

M. R. Collot d'Herbois.

FRENCH I.
Prescribed Books :—Molière : Les Femmes Savantes (*Hachette*). Corneille : Horace (*Hachette*) Madame de Stael : De L'Allemagne. Lamartine : Jocelyn (*Oxford Press*). Guizot : La Révolution d'Angleterre (*Pitt Press*). Mérimée : Chronique de Charles IX. (*Nelson*). V. Hugo : Hernani P Bourget : Le Disciple (*Nelson*). G G. Nicholson : Introduction to French Phonetics.
For the test in conversation Le Disciple will serve as subject matter.

FRENCH II.
As for French I. with, in addition :—Rostand : Cyrano de Bergerac. Flaubert : Salammbô Faguet : XIX. Siècle.

FRENCH III.
As for French II. with, in addition, a general knowledge of the development of French out of Latin.
Prescribed Books :—H Le Breton : Le Roman Français au XIX. Siècle A de Musset : Premières Poésies (*Flammarion*). Brunetière : Le Roman Naturaliste (*Calmann-Levy*).

FRENCH HONOURS.
As for French III., with, in addition—
　　　(i.) History of the Language.
　　　(ii.) History of French Literature to the end of the Nineteenth Century.

Books Prescribed.—Historical French Grammar by A. Darmesteter. Chrestomathie du Moyen Age. Chanson de Roland. Extraits, G. Paris (*Hachette*). Villon : Poésies (*Champion*). Aucassin et Hicelete (*Longmans*).

GERMAN I.
Prescribed Books.—Schiller : Die Jungfrau von Orleans (*Macmillan*). Goethe : Hermann und Dorothea (*Pitt Press*). Storm : Jenseits des Meeres und Hinzelmeier (*Gebruder Paetel, Berlin*). Sudermann : Frau Sorge. Grillparzer : Weh dem der lugt (*Manchester University Press*). Kleist : Prinz von Homburg (*Macmillan*).

GERMAN II.

As for German I. with, in addition :—Goethe : Faust, Part I. (*Macmillan*). Richler : Schulmeisterlein Maria Wuz (*Insel Verlag, Leipsic*). Lessing : Minna von Barnhelm (*Macmillan*).

GERMAN III.

As for German II. with, in addition :—Lessing : Nathan der Weise (*Cambridge University Press*). Storm : Immensee (*Harrap*). Sudermann : Heimat (*Heath & Co.*).

GERMAN HONOURS.

As for German III., with, in addition—
    (i.) German Philology.
    (ii.) History of German Literature to the end of the Nineteenth Century.

PRESCRIBED BOOK.—Nibelungenlied (*Goschen*).
Literaturdenkmäler des 14 and 15—Jahrhunderts (*Goschen*).
For the German Philology Brant's Historical German Grammar (*Allyn and Co., Boston*), and Behagel's Die deutsche Sprache are recommended.

DEPARTMENT OF GEOLOGY.

MR. E. DE C. CLARKE.

MISS L. F. V. HOSKING.

I.—GEOLOGY FOR DEGREES IN ARTS AND PURE SCIENCE. GEOLOGY I.

Geology I. is an optional subject for degrees in Arts and a compulsory subject for Pure Science students in their first year who are taking Geology as a major subject. For other pure science students it is an optional subject in the first, second, or third year.

This course deals with the science in a broad way, and is intended to give students without previous knowledge of geology a general idea of the scope of the subject.

Lectures.—About 60, delivered regularly during the three terms, and dealing with :—
    (i.) Outline of the subject
    (ii.) Elementary Determinative Mineralogy, including the rudiments of Crystallography. Only the most important rock-forming minerals and those of considerable economic importance will be studied in any detail.
    (iii.) Dynamical Geology—the atmosphere, running water, oceans, lakes, ices, volcanoes, earth-movements as geological agents.
    (ii.) Elementary Petrology—origin and distinguishing characteristics (mainly megascopic) of common rocks.
    (v.) Outlines of the economic applications of geology.

(vi.) Elementary Field-Geology—methods of geological work out-of-doors.

(vii.) Elements of Palæontology and Stratigraphical Geology —general structure of typical fossils illustrative of the classes of animals and plants of most importance as fossils. Principles of Stratigraphical Geology. The geological record particularly as represented in Western Australia.

Text-books.—Watts, W. W.: ''Geology for Beginners'' (*Macmillan and Co.*). Rutley, F.: ''Elements of Mineralogy'' (*Murby's Science Series*). Smith, H. G.: '' Minerals and the Microscope '' (*Murby*).

Practical Work—

1. *Laboratory Work.*—Four hours a week mainly devoted to elementary mineralogy, petrology and palaeontology illustrative of the subject-matter of the lectures.

2. *Elements of Field-Geology.*—For practical instruction in this branch of the subject day-excursions will be arranged during term-time. Excursions extending over several days may be arranged during vacations. Each student will be expected to attend a sufficient number of these excursions to gain a satisfactory knowledge of various types of field-work.

GEOLOGY II.

Geology II. may be taken as a second or third year subject for the arts or science degree by any student who has already taken Geology I, and is compulsory in the second year for those taking Geology as a major subject.

This course is supplementary to Geology I., each branch of the subject being studied in more detail.

Lectures.—About 60, delivered regularly during the three terms, and forming an expansion of the Geology I. course.

Practical Work.—Eight hours a week employed in laboratory work (of more advanced character than Geology I.) in Mineralogy, Petrology and Palæontology; also more advanced Field-Geology than in Geology I., but students may, subject to the approval of the lecturer, substitute for the additional field-work an additional hour a period spent in the laboratory in individual work on some selected phases of Mineralogy, Petrology, and Palæontology.

Text-books.—Particulars on application to the Lecturer.

GEOLOGY III.

May be taken as a third year subject for the arts or science degree by any student who has passed Geology II.

It is a compulsory third year course for those making Geology a major subject.

A higher standard than that of Geology II. will be required in all parts of the subject except that, as in Geology II., additional laboratory work may be taken instead of more advanced Field-Geology.

Text-books.—Particulars on application to the Lecturer.

HONOURS IN GEOLOGY.

In addition to attaining a distinctly higher standard in all parts of the subject than is required for Geology III., the student will undertake some research approved by the Lecturer.

Text-books.—Particulars on application to the Lecturer.

II.—GEOLOGY FOR DEGREES IN ENGINEERING.

ENGINEERING GEOLOGY I.

A compulsory subject for third year B.E. 40 lectures and 80 hours' laboratory work as for Geology I. (i.) to (vi.), being the same as the first two terms' work in Geology I.

Field-Work as for Geology I

Text-books.—Watts, W. W.: " Geology for Beginners ' (*Macmillan and Co.*). Rutley. F.: " Elements of Mineralogy " (*Murby's Science Series*).

ENGINEERING GEOLOGY II.

For fourth year students in Engineering. About 20 lectures, delivered during the first term, on the application of geological principles to Civil or Mining Engineering.

Text books.—Particulars on application to the Lecturer.

III.—GEOLOGY FOR DEGREES IN AGRICULTURAL SCIENCE

AGRICULTURAL GEOLOGY.

Compulsory for third year B.Sc. in Agriculture.

Lectures.—About 60 in all. Of these about 40 are the same as Geology I. (i.) to (vi.), the remainder will be devoted to the application of geological principles to agriculture.

Practical Work.—Laboratory about 80 hours, being the same as the first two terms' work in Geology I.

Field-Work as for Geology I

Text-books: Watts, W. W.: " Geology for Beginners," (*Macmillan and Co.*); Rutley, F.: "Elements of Mineralogy," (*Murby's Science Series*)

DEPARTMENT OF HISTORY AND ECONOMICS.

PROFESSOR SHANN.

MR. F. ALEXANDER.

HISTORY.

NOTES.

1. Each course in History will consist of two divisions. Students taking History as a major subject must take the Special Paper in each division. Other students must take the special paper in one division, and the general paper in the other.

2. Students taking History as a major subject may take either Modern History C, or Modern Political Institutions as the third course.

3. Each course of lectures will be delivered in alternate years, as indicated below.

MODERN HISTORY A (1926).

Division I.—*The Emergence of the National State.*

Mediaeval Christendom as an international polity; constructive work of the feudal monarchy; the King's peace; Magna Carta and the Parliament; impoverishment of the monarchy and rise of the middle class. The Tudors and the breach with Rome.

Preparatory Reading:

H. W. C. Davis· Mediaeval Europe (*Home University Library*).

A. F. Pollard: History of England (*Home University Library*).

W. J. Ashley: Economic Organisation of England (*Longmans*).

TEXT-BOOKS.—H. A. L. Fisher: Political History of England, Vol. V. (*Longmans*). M. Creighton: Queen Elizabeth (*Longmans*).

BOOKS OF REFERENCE.—A. F. Pollard: Henry VIII., and Political History of England, Vol. VI. (*Longmans*). J. Bryce: The Holy Roman Empire (*Macmillan*)

Division II.—*Royal or Parliamentary Sovereignty.*

Preparatory Reading:

F. W. Maitland: English Constitutional History (*Cambridge University Press*), Periods I., II., and III.

S. Leathes: The People in the Making, and The People in Adventure (*Heinemann*).

G. P. Gooch. Political Thought from Bacon to Halifax (*Home University Library*).

TEXT-BOOKS.—G. M. Trevelyan: England under the Stuarts (*Methuen*). C Firth· Cromwell (*Putnam*).

BOOKS OF REFERENCE.—S. R. Gardiner: History of England, 1603-1642, 10 volumes (*Longmans*). S. R. Gardiner: History of the Commonwealth and Protectorate, 4 volumes (*Longmans*). Lord Acton· Lectures on Modern History (*Macmillan*). Grant Robertson: Select Statutes, Cases and Documents (*Methuen*).

MODERN HISTORY B (1925).

Division I.—*The Revolution of 1688 and the Whig Oligarchy.*
Preparatory Reading:

J. Morley: Walpole (*Macmillan*).

Lord Roseberry: Pitt (*Macmillan*).

TEXT-BOOKS.—G. M. Trevelyan: England under the Stuarts (*Methuen*). Grant Robertson: England under the Hanoverians (*Methuen*).

BOOKS OF REFERENCE.—W. E. H. Lecky: History of England in the 18th Century (*Longmans*). Lord Acton: Lectures on Modern History (*Macmillan*). Feiling: History of the Tory Party (*Clarendon Press*).

Division II.—*British Colonial Policy.*

Preparatory Reading:

  J. R. Seeley· The Expansion of England (*Macmillan*).

  C. P. Lucas: The British Empire (Six Lectures) (*Macmillan*).

TEXT-BOOKS.—C H. Currey: British Colonial Policy (1783-1ʳ15) (*Oxford University Press*). Ernest Scott: Short History of Australia (*Oxford University Press*). H. E. Egerton: Federations and Unions in the British Empire (*Oxford University Press*).

BOOKS OF REFERENCE.—L. Curtis: The Problem of the Commonwealth (*Macmillan*). Lord Durham: The Canada Report, edited by C. P. Lucas (*Oxford University Press*). H. Duncan Hall " The British Commonwealth of Nations " (*Methuen*). " Round Table " articles as referred to during lectures.

MODERN POLITICAL INSTITUTIONS (1926).

Division I.—*Comparative Study of Constitutions.*

TEXT-BOOKS.—A. V. Dicey: The Law of the Constitution (*Macmillan*). E. Jenks: The Government of the British Empire (*John Murray*).

BOOKS OF REFERENCE.—Woodrow Wilson: The State (*D. C. Heath and Co*). A. Lawrence Lowell: The Government of England (*The Macmillan Co.*). A. Lawrence Lowell: Governments and Parties in Continental Europe (*Longmans*).

Division II. (one term only).—To be prescribed in 1925.

MODERN HISTORY C (1925).

Division I.—*The Balance of Power and the French Revolution.*

Preparatory Reading.—Lord Acton : Lectures on the French Revolution (*Macmillan*). Robinson and Beard: Outlines of European History, Part II. (*Ginn and Co.*).

TEXT-BOOKS.—Louis Madelin· The French Revolution (*Heinemann*). H. A. L. Fisher: Napoleon (*Home University Library*).

BOOKS OF REFERENCE.—de Tocqueville: L'Ancient Régime et la Revolution or English Translation. Godfrey Elton : The Revolutionary Era in Europe (Ed. Arnold).

Division II.—*Democracy and Nationality.*

Preparatory Reading.—F. J. C. Hearnshaw: Europe in the Nineteenth Century (*Macmillan*).

TEXT-BOOKS.—C. D. Hazen: Modern European History (*Bell and Co.*) Sydney Herbert: Modern Europe, 1789 to 1914 (*Macmillan*). F. J. C. Hearnshaw: Historical Atlas of Modern Europe (*Macmillan*).

BOOKS OF REFERENCE.—R. B. Mowatt: Select Treaties and Documents (*Oxford University Press*). J. W. Headlam: Bismarck (*Putnam*). J. H. Clapham: Economic Development of France and Germany, 1815 to 1914 (*Cambridge University Press*). G. P. Gooch: History of Modern Europe, 1878 to 1919 (*Cassell*).

HONOURS IN HISTORY.

1. Modern Political Institutions as set out above. Candidates for honours will be examined on constitutional history in so far as it is treated in Modern History A and Modern History B. They will be required also to study—

> Woodrow Wilson: Constitutional Government in the United States (*Columbia University Press*). Viscount Bryce: Modern Democracies (*Macmillan*), and A. F. Pollard· Evolution of Parliament (*Longmans*).

2. British Colonial Policy, as set out above, with such additional reading as shall be prescribed.

3. Modern European History, as set out above in Modern History C, with a study of the Treaty of Versailles, 1919. For this candidates will make use of:—

> II. W. V. Temperley: History of the Peace Conference (*Frowde*).
>
> J. M Keynes: Economic Consequences of the Peace (*Macmillan*), and A Revision of the Treaty (*Macmillan*).
>
> Hertzlet's Map of Europe by Treaty, and Robertson and Bartholomew's Historical Atlas of Modern Europe are invaluable aids for this study.

ECONOMICS.

The subject will be studied in three courses. First-year students must take first Economics A. Lectures in this course will be delivered in *each session.*

The other courses, Economics B and C, may be taken only by students who have already passed in Economics A. Lectures in these courses will be delivered in alternate years.

ECONOMICS A.

Preparatory Reading.—H. Withers: Poverty and Waste (*Smith, Elder, and Co.*) Henry Clay: Economics for the General Reader (*Macmillan*). L. L. Price: Political Economy in England (*Methuen*).

TEXT-BOOKS — G. W. Gough: Wealth and Work (*Philip*). D. Robertson: Money (*Nisbet and Cambridge*). H. D. Henderson: Supply and Demand (*Nisbet and Cambridge*).

BOOKS OF REFERENCE.—S. J. Chapman: Outlines of Political Economy (*Longmans*). A. Marshall: Principles of Economics (*Macmil'an*). Adam Smith: Wealth of Nations, edited by E. Cannan (*Methuen*). C. Gide: Political Economy (*Harrap*). J. M. Keynes: Tract on Monetary Reform (*Macmillan*).

ECONOMICS B (1925).

Preparatory Reading.—Fairgrieve & Young: Gateways of Commerce (*Philip*). Townshend Warner: Landmarks in Industrial History (*Blackie*). Arnold Toynbee: The Industrial Revolution (*Longmans*) :

TEXT-BOOKS.—W. J. Ashley: Economic Organisation of England (*Longmans*). E. Cressy: Outline of Industrial History (*Macmillan*).

BOOKS OF REFERENCE.—W. J. Ashley: Economic History, Parts I. and 11 (*Longmans*). W. W. Cunningham: Growth of English Industry and Commerce (*Cambridge University Press*). H. Heaton: Modern Economic History, for Australian Chapters (W.E.A. of S.ᴬ.).

ECONOMICS C (1926).

Preparatory Reading.—M. E. Robinson: Public Finance (*Nisbet and Cambridge Press*). Hartley Withers: Our Money and the State (*John Murray*).

TEXT-BOOKS.—C. C. Plehn: Public Finance (*Macmillan Co.*). G. Armitage-Smith: Principles and Methods of Taxation (*Murray*).

BOOKS OF REFERENCE.—J. S. Nicholson: Political Economy, Vol. III. (*A. and C. Black*). A. C. Pigou: Economics of Welfare (*Macmillan*). Hugh Dalton: Principles of Public Finance (*Routledge*). J. A. Hobson: Taxation in the New State (*Methuen*). C. F. Bastable: Public Finance (*Macmillan*).

HONOURS IN ECONOMICS.

Additional study of the subjects treated in the above courses will be required, and materials therefor prescribed from time to time.

DEPARTMENT OF MATHEMATICS AND PHYSICS.

PROFESSOR A. D. ROSS.

MR. R. D. THOMPSON.

MISS M B. MOIR.

MR. A. A. ORTON.

Mr. D. W. EVERSON.

MATHEMATICS.

MATHEMATICS I.

This Class is the first course in Mathematics for Students in the Faculties of Arts, Science, and Engineering. Before attending the class, students must have passed in Mathematics at the Leaving Standard at the School Certificate or Matriculation Examination, or must give other satisfactory evidence of knowledge of those parts of Mathematics which are included in the School Certificate syllabuses.

Attendance on this Class is compulsory for Engineering Students, who are recommended to take it in their first year. Arts Students who do not take the class of Logic and Psychology must take Mathematics I. in their degree course, and attendance on the class is optional for all other Arts and for Science Students. All Students who may take Pure Mathematics or Applied Mathematics as a major subject are strongly advised to take Mathematics I. in their first year at the University.

SYLLABUS:

Algebra.—Progressions and miscellaneous series, simple tests of the convergency of infinite series, simultaneous equations of degree higher than the first, reciprocal equations, solution of cubics, biquadratics, etc., mathematical induction, binomial theorem, exponential and logarithmic series, limiting values of functions, partial fractions.

Trigonometry.—Solution of trigonometrical equations, solution of triangles, heights and distances, circles related to triangles, properties of quadrilaterals and polygons, inverse functions, limiting values.

Geometry.—Ceva's and Menelaus' theorems, harmonic ranges and pencils, pole and polar, orthogonal circles, radical axis, coaxal circles; theorems relating to straight lines, planes, skew lines, and the regular geometrical solids; simple properties of conic sections; analytical geometry of straight line and circle.

Calculus—Differentiation of algebraic and transcendental functions; application of derivative to geometry, gradient of curve, turning points, and maxima and minima values of functions; integration as inverse process; definite integral, and determination of areas, volumes, etc.

TEXT-BOOKS.—H. S. Hall and S. R. Knight: "Higher Algebra" (*Macmillan*). S. L. Loney. "Plane Trigonometry," Part I. (*Cambridge Univ. Press*). P. F. Smith and A. S. Gale: "New Analytic Geometry" (*Ginn and Co.*). J. W. Mercer: "Calculus for Beginners" (*Cambridge Univ. Press*).

MATHEMATICS II.

This Class is the second course in Mathematics for Arts, Pure Science, and Engineering Students.

SYLLABUS:

Analytical Geometry of the Conic Sections, and Elements of Geometry of Three Dimensions.

Differential and Integral Calculus and Elementary Differential Equations.

Higher Trigonometry. De Moivre's Theorem and Complex Quantities. Trigonometrical Series. Hyperbolic Functions.

Determinants. Theory of Equations. Convergency of Infinite Series.

TEXT-BOOKS.—S. L. Loney: "Co-ordinate Geometry" (*Macmillan*). G. W. Caunt: "Infinitesimal Calculus" (*Clarendon Press*). S. L. Loney. "Plane Trigonometry (*Cambridge Univ. Press*). H. S. Hall and S. R. Knight: "Higher Algebra" (*Macmillan*).

MATHEMATICS III.

This Class is the third course in Mathematics for Arts, Pure Science, and Engineering Students.

SYLLABUS:

The general equation of the conic and associated theorems.
Analytical Geometry of Three Dimensions.
Higher Infinitesimal Calculus and Differential Equations.
Infinite Series. Function Theory.

TEXT-BOOKS.—E. H. Askwith "Analytical Geometry of the Conic Sections" (*A. and C. Black*). R. J. T. Bell: "Co-ordinate Geometry of Three Dimensions" (*Macmillan*). J. Edwards: "Differential Calculus" (*Macmillan*). B. Williamson: "Integral Calculus" (*Longmans, Green and Co.*). D. A. Murray: "Introductory Course in Differential Equations" (*Longmans*).

FOR REFERENCE.—E. Goursat and E. R. Hedrick: "Course in Mathematical Analysis" (*Ginn and Co.*). A. R. Forsyth: "Treatise on Differential Equations" (*Macmillan*).

HONOURS IN PURE MATHEMATICS.

Candidates for Honours in Pure Mathematics shall pass in Mathematics I., Mathematics II. and III., and shall in addition pass an examination in selected branches of Higher Mathematics, such as Definite Integrals, Harmonic Analysis, Function Theory, Elliptic Functions, Algebra of Invariants, Theory of Groups.

APPLIED MATHEMATICS II.

This Class forms a second course for Arts and Pure Science Students who have previously passed in Mathematics I. and Physics I., or who give other satisfactory evidence of a knowledge of the elements of the Infinitesimal Calculus and of Elementary Dynamics. It is also a compulsory class for Engineering Students.

SYLLABUS:

Dynamics and Statics of Particles and of Rigid Bodies, Hydrostatics and Elasticity.

TEXT-BOOKS.—R. J. A. Barnard: "Dynamics of the Particle and Rigid Body" (*Macmillan*). R. J. A. Barnard: "Elementary Statics" (*Macmillan*).

APPLIED MATHEMATICS III.

This Class forms a third course for Arts, Pure Science, and Engineering Students who have previously passed in Physics I. and Applied Mathematics II.

The work of the class will be a more advanced study of the subjects of Dynamics, Hydrostatics, Hydrodynamics, Potential Theory, and Elasticity.

TEXT-BOOKS.—A. Gray and J. G. Gray: ''Treatise on Dynamics'' (*Macmillan*). H. Lamb: ''Statics'' (*Cambridge Univ. Press*). G. M. Minchin: ''Treatise on Hydrostatics'' (*Clarendon Press*). G. F. C. Searle: ''Experimental Elasticity'' (*Cambridge Univ. Press*). Reference will also be made to certain books which may be consulted in the University Library.

ASTRONOMY (To be held in 1926).

This Class is the course in Astronomy and Geodesy for Engineering Students in their fourth or fifth year. It is also optional for Students proceeding to an Honours Degree in Applied Mathematics.

SYLLABUS:

Spherical Trigonometry and Geodesy.

Elementary Mathematical Astronomy.

The practical determination of Latitude, Longitude, Time, and Azimuth.

TEXT-BOOKS.—W. J. McClelland and T. Preston: ''Treatise on Spherical Trigonometry'' (*Macmillan*). R. W. Chapman: ''Astronomy for Surveyors'' (*Charles Griffin and Co.*) In connection with the work for Honours students, reference will also be made to certain books which may be consulted in the University Library.

HONOURS IN APPLIED MATHEMATICS.

Candidates for Honours in Applied Mathematics shall pass in Physics I., Applied Mathematics II. and III. In addition they shall be required to pass an examination in Higher Dynamics and one of the following:—Theory of Elasticity, Hydrodynamics, Mathematical Astronomy, Fourier's Series and its Applications.

PHYSICS.

PHYSICS I.

This Class is the first course in Physics for Students in the Faculties of Arts, Science, and Engineering. Engineering Students are recommended to attend this class in their first year. The Class is one of the optional courses for Arts and Science Students, but should be taken in the first year by all Students taking Physics or Applied Mathematics as a major subject.

SYLLABUS:

Elementary Mechanics and Hydrostatics, and the fundamental principles and more important phenomena of Sound, Light, Heat, Magnetism, and Electricity. Practical work in the Laboratory.

Details of the Course.

Mechanics—

The fundamental units of length, mass, and time. Sidereal time. Mean solar time. Derived units. Density. Speed and velocity. Composition and resolution of vector quantities. Acceleration. Inertia and mass. Momentum. Force. Measurement of mass and force. Impulse. Laws of motion. Dynamical measurement of time. Gravity. Falling bodies. Atwood's machine. Projectiles. Simple harmonic motion. The pendulum. Work, energy, and power. Conservation and dissipation of energy. Friction. Centroids. Forces applied to a rigid body. Moments of forces Couples. Uniplanar motion and equilibrium of a rigid body. Stable, unstable and neutral equilibrium. Principles of constancy of momentum of an isolated system. Mechanical principles as illustrated in simple machines. Elasticity of bulk and of shape. Young's modulus.

Hydrostatics—

Distinction between a solid and a fluid. Viscosity. Distinction between a liquid and a gas. Kinetic theory of gases. Pressure in non-gravitating and gravitating fluids. Boyle's law and its applications. Principle of Archimedes. Equilibrium of floating bodies. Determination of relative densities. Hydrometers. Atmospheric pressure. The barometer. manometer, siphon, and pumps Efflux of liquids. Theorems of Torricelli and Bernoulli. Capillarity. Diffusion. Osmosis.

Sound—

Nature and velocity of sound. Reflection and refraction of sound waves. Echoes. Musical sounds. Pitch, intensity, and quality. Measurement of frequency. Doppler's principle Musical scales. Consonance and dissonance. Elementary phenomena of resonance. Longitudinal vibrations of rods and columns of air. Organ pipes. Transverse vibration of strings and plates. Musical instruments.

Light—

Nature of light. Propagation of light. Shadows, and eclipses of sun and moon. Photometry. Reflection and refraction of light at plane and spherical surfaces. Total reflection. Formation of images by mirrors and lenses. Determination of focal lengths and powers. Optical systems. Simple and compound microscopes. Telescopes. The eye. Defects of vision and their correction by spectacles. Binocular vision. Refraction of light through a prism. Dispersion. Types of spectra. The spectroscope and its applications. Chromatic and spherical aberration in lenses. Elementary phenomena of the polarisation of light. The velocity of light.

Heat—

Nature of heat. Experiments of Rumford, Davy, and Joule. Equivalence of heat and energy. Temperature. Expansion of solids, liquids, and gases. Thermometry. Equal differences of tempera·

ture. Mercury-in-glass thermometers. Air thermometer. Absolute zero of temperature on the air thermometer. Measurement of expansions. Absolute and relative expansion of liquids. Weight thermometer. Maximum density point of water. Temperature corrections of barometer and pendulums Compensation of clocks and watches. Calorimetry. Units of heat Thermal capacity and specific heat. Calorific values. Dynamical equivalent of heat. Phenomena of change of state. Latent heats. Total heat of steam. Vapour pressure and its measurement. Dalton's law of partial pressures. Hygrometry. Conduction and convection of heat. Ventilation and heating of buildings. Atmospheric and oceanic currents. Phenomena of rad ant energy. Meteorological instruments. Clouds Cyclones and anticyclones.

Magnetism—

Elementary magnetic phenomena. Action of the earth on a suspended magnet. Induced magnetism. Magnetic field and lines of force. Unit of magnetism. Magnetic field intensity. Terrestrial magnetism.

Electricity—

Elementary phenomena of electrostatics. Conductors and insulators. Electric field Unit quantity of electricity. Electric field intensity. Electric potential. Electrostatic induction. Condensers. The Leyden jar Function of the dielectric. Faraday's ice pail experiment. Electric induction machines. Atmospheric electricity. Lightning conductors. Flow of electricity. Voltaic action. Batteries. Polarisation. Action of a current on a magnet. Magnetic field of a current in a circular conductor. Unit of current. Measurement of a current. Galvanometers The tangent galvanometer. Ohm's law. Resistance. Measurement of resistance. Shunts. Electromotive force in a heterogeneous circuit. Electrolysis. Accumulators. Magnetic induction through a circuit. Actions between magnets and currents and between currents. The induction coil. Transformers. Rate of working in an electric circuit. Heating effect of an electric current. Unit of electromotive force and resistance. The ampere, volt, ohm, etc. Dynamos and motors. Electric lighting. Telegraphs and telephones. Wireless telegraphy. Kathode and Röntgen rays.

TEXT-BOOKS.—J. Duncan and S. G. Starling : " Text-book of Physics " (*Macmillan*). Laboratory Note-book of regulation pattern (obtainable at the University Booksellers).

PHYSICS 11.

This Class is the second course in Physics for Arts and Pure Science Students.

SYLLABUS :

Properties of Matter, Heat (including Thermodynamics), Light, Magnetism, and Electricity. Practical work in the Laboratory.

TEXT-BOOKS.—J. Duncan and S. G. Starling: "Text-book of Physics" (*Macmillan*). E. Edser: "Light for Students" (*Macmillan*). E. E. Brooks and A. W. Poyser: "Magnetism and Electricity" (*Longmans*). Laboratory Note-book of regulation pattern (obtainable at the University Booksellers).

FOR REFERENCE.—T. Preston: "Theory of Heat" (*Macmillan*). W. R. Kelsey: "Physical Determinations" (*Arnold*).

ENGINEERING PHYSICS.

This Class is a second course in Physics for Engineering Students.

SYLLABUS:

Electricity, Pure and Applied (including Laboratory Work).

Thermodynamics, and Elements of Conduction of Heat.

TEXT-BOOKS.—J. Duncan and S. G. Starling: "Text-book of Physics" (*Macmillan*). E. E. Brooks and A. W. Poyser: "Magnetism and Electricity" (*Longmans*). Laboratory Note-book of regulation pattern (obtainable at the University Booksellers).

FOR REFERENCE.—J. A. Ewing: "The Steam Engine" (*Cambridge Univ. Press*).

PHYSICS III.

This Class is the third course in Physics for Arts and Pure Science Students

SYLLABUS:

Electricity and Magnetism, Heat, Geometrical and Physical Optics. Practical Work in the Laboratory.

TEXT-BOOKS.—S. G. Starling: "Electricity and Magnetism for Advanced Students" (*Longmans*). N. R. Campbell: "Modern Electrical Theory" (*Cambridge Univ. Press*). R. A. Houstoun: "Treatise on Light" (*Longmans, Green and Co.*). A. Haas: "The New Physics" (*Methuen*). W. Watson: "Text-book of Practical Physics" (*Longmans, Green and Co.*). Laboratory Note-book of regulation pattern (obtainable at the University Book-sellers).

FOR REFERENCE.—J. J. Thomson: "Conduction of Electricity through Gases" (*Cambridge Univ. Press*). A. Gray: "Absolute Measurements in Electricity and Magnetism" (*Macmillan*). W. E. Ayrton and T. Mather: "Practical Electricity" (*Cassell*). A. Schuster: "Theory of Optics" (*Arnold*). T. Preston: "Theory of Heat" (*Macmillan*). W. C. D. Whetham: "Recent Development of Physical Science" (*Murray*). A. Sommerfeld: "Atomic Structure and Special Lines" (*Methuen*). A. Einstein: "Relativity" (*Methuen*).

HONOURS IN PHYSICS

Science students proceeding to an Honours Degree in Pure or Applied Physics will be required to complete the ordinary three years' Course in Physics. In addition they shall be required to make a special study of some selected branch or branches of Pure Physics or Engineering Physics and to carry out advanced practical work therein.

DEPARTMENT OF MENTAL AND MORAL PHILOSOPHY.

Mr. A. C. Fox.

Mr. W. A. LAIDLAW.

LOGIC AND PSYCHOLOGY.

(The work of this class must be done before students are permitted to attend other classes within the Department.)

LOGIC, an investigation of the conditions of valid thinking. Analysis of the Judgment. Nature and Forms of Inference. Scientific Method.

PSYCHOLOGY, an examination of normal mental processes in general. The elements of experience with their various integrations. Mental development. Social Psychology.

TEXT-BOOKS.—Myers: "Introduction to Experimental Psychology" (*Camb. Univ. Press*). McDougall: "Physiological Psychology" (*Temple Primer*), and "Outline of Psychology" (*Methuen*). Welton and Monahan: "Intermediate Logic" (*University Tutorial Press*).

Additional—For Distinction: Joseph: "Introduction to Logic" (*Oxford*). Bosanquet · "Essentials of Logic" (*Macmillan*). Stout: "Manual of Psychology" (*Univ. Tut. Press*). For further Reference: Thompson: "Introduction to Science." Bosanquet: "Logic" and "Implication and Linear Inference." "Encyclopædia of the Philosophical Sciences," Vol. I., Logic. Ward: "Psychological Principles." McDougall: "Social Psychology."

ANCIENT PHILOSOPHY (1925).

The Primitive Mind. Eastern Modes of Thought. Emergence and Development of Greek Philosophy. Later Ethical and Religious Movements.

TEXT-BOOKS.—Burnet: "Greek Philosophy," Vol. I. (*Macmillan*). Plato's Works (three volumes, including the "Republic"), Nicomachean Ethics of Aristotle, Meditations of Marcus Aurelius (*Everyman's Library*). Radahkrishnan: "Philosophy of the Upanishads" (*S. Allen and Unwin*).

Additional—For Distinction: Pater, "Plato and Platonism," (*Macmillan*). Wallace: "Outlines of Philosophy of Aristotle" (*Cambridge*). For further Reference: The Histories of Philosophy, by Erdman, Windelband, Ueberweg, and Roger. Gomperz: "Greek Thinkers ; the writings of Zeller.

MODERN PHILOSOPHY (1925).

The Renaissance and Reformation. Rationalism and Empiricism. The Enlightenment. Kant, Fichte, and Hegel. Modern Developments.

TEXT-BOOKS.—The works of Descartes, Spinoza, Berkeley, and Hume, in *Everyman's Library.* Kant: "Selections," edited by Watson (*Maclehose*). Caird: "Hegel" (*Blackwood's Philosophical Classics*).

Additional.—For Distinction: Hoernlé: "Studies in Contemporary Metaphysics" (*Harcourt*). Students will also be required to give special attention to some thinker, and to study recent philosophical tendencies. For Reference.—Locke: "Essay concerning the Human Understanding," Leibniz: "Monadology." Hoffding: "History of Modern Philosophy." G. de Ruggiero: "Modern Philosophy." Seth: "Scottish Philosophy." Caird: "Critical Philosophy of Kant."

ETHICS (1926).

A.—Rudimentary Ethics Emergence and development of moral consciousness. The moral judgment and its significance. Moral ideals. Duties. Virtues. Moral institutions. Psychological Basis of Ethics.

B.—Historical Sketch of Ancient and Modern Ethical systems.

TEXT-BOOKS —Mackenzie· "Manual of Ethics" (*University Tutorial Press*). Dewey and Tufts: "Ethics" (*Geo. Bell and Sons*). Sidgwick: "History of Ethics" (*Macmillan*), and references given at lectures.

Additional.—For Distinction: A more thorough knowledge of Ethical principles and systems, and of the origin and development of moral ideas.

For Reference.—Hobbes: "Leviathan" (selections). Hume: Treatise Book iii., Butler, Serm i.-iii., and Dissertation on Virtue. Kant: "Metaphysic of Ethics," J. S. Mill: "Utilitarianism." Sidgwick: "Methods of Ethics." Spencer: "Data of Ethics." T. H. Green· "Prolegomena to Ethics." Hobhouse: "Morals in Evolution."

CANDIDATES FOR HONOURS, before proceeding to the year of distinctively honours study, should attempt the additional work for distinction in each of their courses, and generally will be required to have passed with distinction in at least two courses.

DEPARTMENT OF EDUCATION.

Mr. W. J. ROONEY.

PASS.

1. Nature and Scope of Educational Theory. Data and first principles.

2. Aims of Education. Education and Social Efficiency.

3. Origin of Educational Institutions. Survey of the school as an Education agency and in relation to other agencies. The School, an institution for providing designed environments. Function of the School in a Modern Democracy.

4. The child in relation to the School. Stages of growth; their characteristics and needs; their bearing on the curriculum.

5. The Theory of the Curriculum—education and life. Need for progressive modification of curriculum. Subjects of instruction and educational values. Relation of studies to each other.

6. The Process of Education—Self-activity. Interest, Apperception. The Problem of individual differences; attempts to solve the problem, including the Dalton Plan. The individual and the Class.

7. General Method—Forms of Instruction. Types of Lessons. The Assignment.

8. Organisation of education in a modern state. Types of Schools representing needs of society. Progression from lowest types to highest—Co-ordination of the parts of a school system.

9. History of Education—A comparative study of Educational opinion from Comenius to the present day. The theories of Dewey and their application to the education of to-day.

TEXT-BOOKS.—Nunn: ''Education, Its Data and First Principles'' (*Edward Arnold*). Findlay: ''School'' (*Williams and Norgate*) Findlay: ''Principles of Class Teaching'' (*Macmillan*). Adams: '' Modern Developments in Educational Practice '' (*University of London Press*). Dewey: '' School and Society '' (*University of Chicago Press*). Monroe: '' Text Book in the History of Education '' (*Macmillan*). As Source Book, Painter: '' Great Pedagogical Essays '' (*American Book Company*).

REFERENCES.—Dewey: ''Democracy and Education (*Macmillan*). Hall ''Aspects of Child Life (*Ginn*). Hall· ''Youth, its Education, Regimen and Hygiene'' (*Appleton*). Montessori: ''Principles'' (*Heinemann*). Froebel: ''Educational Laws.'' Hanus: ''The Modern School'' (*Macmillan*). King: ''The High School Age'' (*Bobbs-Merrill*). Norwood and Hope: ''The Higher Education of Boys in England'' (*Murray*). Colvin: ''Introduction to High School Teaching'' (*Macmillan*). Parkhurst: ''The Dalton Plan'' (*Bell*). Bobbit: ''The Curriculum'' (*Houghton, Mifflin Co.*) Cubberley: ''Rural Life and Education'' (*Houghton, Mifflin Co.*). Dewey (Evelyn): ''New Schools for Old.'' Perry: ''Outlines of School Administration'' (*Macmillan*). Kerschensteiner: ''Education for Citizenship'' (*Harrap*). Davidson: ''A History of Education'' (*Constable*).

Boyd: "From Locke to Montessori" *(Harrap)*. "Federal Handbook of Australia" (Chapter XII.). Smith: "History of Education in Australia."

HONOURS.

As for Pass, with the following additional work, subject to examination in the Final Honours examination:—

1. The Theory of Formal Discipline, and an extended consideration of Educational Values.
2. The Renaissance and Education.
3. Social Aspects of Education.
4. Experimental Education.

RECOMMENDED REFERENCES.

As for Pass, and Sleight: "Educational Values and Methods" *(Oxford University Press)*. Bagley: "Educational Values" *(Macmillan)*. Adams: "Evolution of Educational Theory" *(Macmillan)*. Dutton: "Social Phases of Education" *(Macmillan)*. Rusk: "Experimental Education" *(Longmans)*. Valentine: "Experimental Psychology" *(University Tutorial Press)*. Starch: "Educational Measurements" *(Macmillan)*. Terman: "The Measurement of Intelligence" *(Houghton, Mifflin Co.)*. Philips: "The Measurement of General Ability" *(Teachers' College Press, Sydney)*. Burt: "Mental and Scholastic Tests" *(London County Council)*. Graves: "History of Education in the Middle Ages and the Transition to Modern Times" *(Macmillan)*.

DEPARTMENT OF VETERINARY SCIENCE.

MR. E. A. LE. SOUEF.

VETERINARY ANATOMY.

Thirty Lectures.

For First Year Students studying for the Diploma in Agriculture.
For Second Year Students studying for the B.Sc. in Agriculture.

1. The Skeleton of the Horse.—The Skull. The axial skeleton. The appendicular skeleton.
2. The skeleton of the Ruminant compared with that of the Horse.
3. The Articulations—Special anatomical structure and classes of joints. Motion in joints and principal joints of the body.
4. The Muscular System—Muscles of the trunk and head, of the fore limb, of the hind limb. Involuntary or non-striated muscles.
5. The Nervous System—The Brain. The spinal cord. Special nerves, and nerves of the Sympathetic system.
6. The Vascular System—The heart. The blood vessels. The lymphatics.
7. The Thoracic Cavity and Respiratory System.
8. The Abdominal Cavity and Organs of Digestion.—The salivary glands, and organs of mastication and deglutition. The stomach and small intestines. The large intestines. The accessory glands—liver, pancreas, etc.

9. The Organs of Digestion in the Ruminant.

10. The Excretory Systems—The urinary organs. The skin.

11. The Reproductive Organs—Male, female

12. The Organs of Special Sense—The eye, the ear. Organs of smell, taste, touch, etc.

13. Special Lecture on the Foot of the Horse.

TEXT-BOOK.—Strangeways : Veterinary Anatomy.
Ten horses and five ruminants are used as dissection subjects.

VETERINARY PHYSIOLOGY.

Thirty Lectures.

First Year Students for Diploma in Agriculture.
Second Year Students for B.Sc. in Agriculture.

1. The cell as the foundation of the body.

2. The composition of the animal body.

3. The Blood—Composition, function, and characters.

4. The histological structure and functions of the Heart and Blood-vessels. Mechanics and course of circulation—Nervous mechanism. Structure and function of lymphatic glands and vessels.

5. Respiration—Structure and histological function of the air-passages and lungs. Changes in the air and blood—Nervous mechanism.

6. Nervous System.—Histological structure and functions of the brain, spinal cord, the sympathetic system. Distribution and functions of the more important nerves.

7. Digestion—Prehension, mastication, insalivation, deglutition, Digestion in the stomach and intestines and absorption. Histological structure and functions of the liver and pancreas. Digestion in the ruminant.

8. Nutrition and growth.

9. Animal heat—Methods of production—Normal temperature of animals.

10. Histological structure and functions of the kidneys. Composition of urine.

11. Histological structure and function of the skin.

12. Special Sense Organs (Physiology of)—The eye. The ear. Tactile organs. Organs of smell and taste.

13. Physiology of movement.

14. Generation and Development. Histological structure and functions of the male generative organs. Histological structure and functions of the female generative organs. Growth and development of the foetus.

15. The Udder—Histological structure and functions of the udder. Composition of milk.

TEXT-BOOK.—F. Smith : Veterinary Physiology.

VETERINARY PATHOLOGY.

Thirty Lectures.

For Second Year Students studying for Diploma in Agriculture.

For Third Year Students studying for B.Sc. in Agriculture.

1. Introduction to the Study of Pathology.
2. Nutrition—(a) Impaired and arrested ; (b) Increased.
3. Diseases of the Blood and Circulation.
4. Inflammation—(a) Histological changes and clinical signs. (b) Varieties, causes, modes of spread and arrest.
5. Fever.
6. Unsoundness of the horse, practically illustrated.
7. General Pathology of the Central Nervous System.
8. Bacteriology in relation to disease.
9. Septicaemia and Pyæmia.
10. Tumours.
11. Parasites and Parasitism—(a) Acariases ; (b) Distomatosis ; (c) Pulmonary Strongylosis ; (d) Life History of a typical Taenia.
12. Insects as carriers of disease.
13. Vaccines and Immunity.
14. Special Pathology of the more important infective diseases of Australia—Strangles and Influenza. Anthrax. Black Quarter and Malignant Oedenia. Pleuro-pneumonia Contagiosa. Tuberculosis. Actinomycosis and Botryomycosis. Contagious Abortion. Swine Erysipelas and Hog Cholera. Bovine Piroplasmosis (Tick Fever). Braxy and allied diseases. Tetanus. Diseases of the new-born.

VETERINARY HYGIENE.

For Second Year Students studying for Diploma in Agriculture.

For Third Year Students studying for B.Sc. in Agriculture.

Water—Sources of supply, impurities.

Air—Composition, impurities.

Buildings and Ventilation.

Foods.—Composition, digestion, use for special purposes, fattening, milk production, injurious effects of—Parasites attacking.

Manurial value and disposal of animal excreta.

Soils.

Care and Management of Animals—(a) Horses, asses, and mules ; (b) Cattle ; (c) Sheep and pigs ; (d) Camels ; (e) Young animals.

Care and Management of Animals under Special Conditions—(a) During transport by land and sea ; (b) Military hygiene.

Principles of breeding.

International Hygiene—Laws of the Commonwealth. Diseases sought to be guarded against. Provisions for dealing with an infective disease should one be introduced.

State Hygiene—Laws of the State. Infective diseases to be dealt with. Dairy inspection. Meat inspection.

Methods of Diagnosis—Bacteriology. Diagnostic and Preventive Serums and Vaccines. Immunity.

Parasitology from the standpoint of the Veterinary Hygienist.

SCHOOL OF ENGINEERING AND MINING.

PROFESSOR WHITFELD.

ASSOCIATE-PROFESSOR TOMLINSON.

MR. P. H. FRAENKEL.

ARCHITECTURE (INCLUDING BUILDING CONSTRUCTION).

The course consists of drawing (civil), testing and experimental work in the Materials Testing Laboratory, and lectures based upon the following : —

History of Architecture.

The historical evolution of design and construction from the earliest times to the present day, embracing Egyptian, Assyrian, Grecian, Roman, Early Christian, Romanesque, Byzantine, Gothic, Renaissance, and Modern work

Building Materials.

The production, classification, characteristics, specification, testing and inspection of Timber, Masonry, Limes and Cements, Plaster, Paints and Varnishes, Glass, Lead, Corrugated Iron, etc.

Building Construction.

The Elements of Building Construction, including Estimating.

TEXT-BOOKS.—C. F. Mitchell: Building Construction, Vols. I. and II I. O. Baker A Treatise on Masonry Construction. Leeds: Order of Architecture

REFERENCE BOOKS.—An Australian Builders and Contractors' Price Book. Rivington. Building Construction, Vols. 1, 2, and 3. Gardner: Paint Technology and Tests. Leaning: Quantity Surveying Fergusson: History of Architecture (4 vols.). Mills: Materials of Construction—Their Manufacture, Properties, and Uses Baterden Timber. Purchase: Masonry Construction.

CIVIL ENGINEERING, A and B.

The course consists of drawing (Civil) and lectures based upon the following :—

Earthworks, Masonry Structures, etc.

Preliminary Works, etc. —Earthworks, Trenches, Ordinary Foundations. Pile and Under Water Foundations.

Theories, Principles of Design, etc., of Walls, Retaining Walls, Bridge Abutments, Coal and Ore Bins, Grain Bins, Masonry Arches and Bridges, Culverts, Sewers, Tunnels

Rivers, Canals, and Docks.

Rivers and Canals.—The Flood Control and Regulation of Rivers. The Canalisation of Rivers. The Improvement of River Outlets. Inland Navigation and Ship Canals.

Dock and other Maritime Works.—The Construction of River Quays, Basins and Docks, Dock Entrances and Locks, Graving Docks, Harbour Works, etc. The Lighting of Coasts and Channels. Land Reclamation and Coast Protection.

Water Supply, Sewerage, and Irrigation.

Water Supply.—The Sources, Collection, and Storage of Water. The Design and Construction of Dams, Reservoirs, etc. The Conveyance, Purification, and Distribution of Water Supply.

Sewerage.—The various Systems and Works. The Purification and Disposal of Sewage. Domestic Sanitation

Irrigation.—Hydrography. Canals and Canal Works. Storage Reservoirs. Distribution, Application, Retention, and Drainage.

TEXT-BOOKS.—Vernon Harcourt· Civil Engineering as applied in Construction. Vernon Harcourt: Sanitary Engineering with respect to Water Supply and Sewage Disposal. Kershaw: Sewage Purification and Disposal. Wilson. Irrigation Engineering. I. O Baker: A Treatise on Masonry Construction. Hunter· Rivers and Estuaries or Streams and Tides.

DESCRIPTIVE GEOMETRY I

The course consists of drawing and lectures based upon the following:—

Plane Geometry. Solid Geometry; Position in Space; Representation of Points, Lines, and Planes, by their Projections and Traces; Development of Surfaces; Sectional Projection; Auxiliary projection; Perpendicular Planes; Determination of True Length and Angles; Rabatment and True Shape of Solids.

TEXT-BOOK.—Harrison and Baxandall: Practical Geometry and Graphics (advanced).

REFERENCE BOOK —Low: Practical Geometry and Graphics.

DESCRIPTIVE GEOMETRY II.

The course consists of drawings and lectures based upon the following:—

Shades and Shadows; Points; Lines; Planes; Solids Isometric Drawing; Points, Lines, Planes, Solids, Shadows in Isometric Drawing; Isometric Rays; Perspective; Points, Lines, Planes, Solids, Diagonals, Perpendiculars, Shadows and Perspective Rays. General Numbers of Complex Quantity, Revolving Vectors, Curve Multiplications.

TEXT-BOOK.—W. C. Hoover Slayle: "Descriptive Geometry," Parts IV., V., VI.

REFERENCE BOOKS.—Steinmetz: "Engineering Mathematics." Arnold: Wechselstromtechnik and translations.

ELECTRICAL ENGINEERING Iᴀ.

The course consists of lectures and laboratory work based on the following :—

ELECTRIC CURRENT.

The generation of current through chemical action, heat action, and electric dynamic action.

Fundamental Electrical Relations in Direct Current Circuits.—Temperature Coefficient. Resistances and conductances in series and in parallel. Electric power.

Resistivity and conductivity. Current density and voltage gradient. Kirchhoff's Laws.

Conductors of Variable Cross-Section.—Current density and voltage gradient at a point. The radial flow of current. The resistance and conductance of irregular paths. The law of current refraction.

Representation of Alternating Currents and Voltages by Sine-Waves and by Vectors.—Sinusoidal voltages and currents. Representation of a sine-wave by a vector. Addition and substraction of vectors. Non-sinusoidal currents and voltages.

Joule's Law.

The Fundamental Relation between Flux and Magnetomotive Force.—A simple magnetic circuit. Magnetomotive force. Magnetic flux. The reluctance of a magnetic path. The permeance of a magnetic path. Reluctivity and permeability. Magnetic intensity. Flux density. Reluctance and permeances in series and in parallel.

The Magnetic Circuit with Iron.—The difference between iron and. non-magnetic materials. Magnetisation curves. Permeability and saturation. Problems involving the use of magnetisation curves. Lifting power of magnets.

Hysteresis and Eddy Currents in Iron.—The hysteresis loop. An explanation of saturation and hysteresis in iron. The loss of energy per cycle of magnetisation. Eddy currents in iron. Cores, practical data of hysteresis and eddy current loss in iron.

Induced E.M.F. in Electrical Machinery.—Methods of inducing e.m.f. The formulae for induced e.m.f. Induced e.m.f. in a transformer. Induced e.m.f. in alternators and induction motors. Breadth factors. Slot Factors Ks. Winding pitch factor Kw. Non-sinusoidal voltages. Induced e.m f. in direct-current machines. The ratio of A.C. to D.C. voltage in rotary converter machines.

The Use of Complex Quantities.—Rotation of vectors by ninety degrees. Impedence and admittance expressed as complex quantities or operators. Vectors and operators expressed as exponential functions.

ELECTRICAL ENGINEERING Iʙ.

Exciting Ampere Turns in Electrical Machinery in Transformers.—In transformers with saturated core. The types of magnetic circuit occurring in revolving machinery. The air-gap ampere-turns. Method of equivalent permeances for the calculation of air-gap ampere-turns.

Magnetomotive Force of Distributed Windings.—Of direct current or single phase distributed windings. Of polyphase windings. In a loaded induction machine.

Armature Reaction in Synchronous Machines.—The performance diagram of a synchronous machine with non-salient poles. The direct and transverse armature reaction in a synchronous machine with salient poles.

Polyphase Systems.—Two-phase. Three-phase Y-connected system. Three-phase delta connected system.

Voltage Regulation of the Transformer.—The vector diagram of a transformer. Analytical determination of voltage regulation.

Performance Characteristic of the Induction Motor.—The equivalent electrical diagram of an induction motor. Starting torque, pull-out torque and maximum output. The circle diagram. The analytical determination of permeance.

Electromagnetic Energy and Inductance.—Electromagnetic energy expressed through the linkages of current and flux. Inductance as the coefficient of stored energy, or the electrical inertia of a circuit.

The Inductance of Cables and of Transmission Lines.—The inductance of single-phase concentric cable. The inductance of a single-phase line. The inductance of a three-phase line with symmetrical and semi-symmetrical spacing. The equivalent reactance and resistance of a three-phase line with an unequal spacing of the wires.

The Inductance of the Windings of Electrical Machinery.

The Mechanical Force and Torque due to Electromagnetic Energy.—The longitudinal tension of the lateral compression in a magnetic field. The torque in generators and motors.

ELECTRICAL ENGINEERING IIʙ.

The Ampere-Ohm System of Units.

The Ampere-Turn v. Gilbert.

The Dielectric Circuit.
The electrostatic field The permittance and elastance of dielectric paths. Permittivity and elastivity of dielectrics. Dielectric flux density and electrostatic stress (voltage gradient). Energy in the electrostatic field. The permittance and elastance of irregular paths. The law of flux refraction. The dielectric strength of insulating materials. The electrostatic corona. Dielectric hysteresis and conductance.

Elastance and Permittance and Single Phase Cables and Transmission Lines.—The elastance of a single-core cable. Of a single-phase line. The influence of the ground upon the elastance of a single-phase line. The equations of the electrostatic lines of force and equipotential surfaces produced by a single-phase line. The elastance between two large parallel circular cylinders. Leakance in Telephone Transmission.

Equivalent Elastance and Charging Current in Three-phase Lines.—Three-phase line with symmetrical spacing. Three-phase line with unsymmetrical spacing.

Dielectric Reactance and susceptance in Alternating-Current Circuits.—Current and voltage resonance. Voltage regulation of a transmission line, taking its distributed permittance into account. Approximate formulae for the voltage regulation of a transmission line considering its permittance concentrated at one or more points.

Electrical Transmission without Conductor—Electrons and matter, units, natural and resonant frequencies.

Coupled Circuits, coupling factor, aerials, wave-lengths, reception, spark transmitters.

Thermionic valves, valve as amplifier, detector and oscillator.

Continuous waves. Heterodyning.

Rectifying circuits.

Arc transmitters.

High-frequency alternator.

Radio telephony.

Loop and frame aerials.

Direction-finding.

Losses.

Elimination of interference.

High speed telegraphy.

ELECTRICAL ENGINEERING IIA.

The course consists of lectures, etc. :—

Accumulators.

Direct Current Generators and Motors.

Alternating Current Generators.

Alternating Motors.

Converters.

Transformers.

Wiring Diagrams.

Generator stations and substations for direct current and alternating current single phase and polyphase system, converter stations.

Transmission Lines.—Installation overhead and underground, cables wire, conduit, poles, house-connections, station connections.

Insulators—Telephone, low tension, high tension specials.

Regulation of Voltage and Current in Central and Substations.

Synchronous Converter.

ENGINEERING ECONOMICS.

The Course is based upon the following :—Types of business organisation ; formation and organisation of companies ; stocks, shares, debentures ; monopolies and public control ; money, banking, and credit.

Analysis of balance sheet ; operating and fixed charges ; estimates ; specifications and contracts.

TEXT-BOOK —Hartley Withers : Stocks and Shares (*Smith Elder*).

REFERENCE BOOKS.—Jethro Brown : Prevention and Control of Monopolies (*John Murray*). Hartley Withers : The Meaning of Money (*Smith Elder*). Ripley : Finance and Organisation of Railroads. Waddell-Wait : Specifications and Contracts. Davies : Engineering Office Systems and Methods.

HEAT ENGINES AND MECHANICS OF MACHINERY Iᴀ. AND Iʙ.

The course consists of drawing (mechanical), experimental work in the Applied Mechanics Laboratory, and lectures based upon the following :—

Engineering Mechanics.—Work.   Power.   Friction.   Efficiency and mechanical advantage of machines.   Forms of energy.   Dynamo-meters. Moments of Inertia.

I.ᴀ.—*Action of Steam Plant.*—History of the development of heat motors. General description of a Steam Plant.   Steam Cycle.   Indicators. Indicator Diagram.   Mean Pressure.   I.H.P.   Dynamometers.   Mechanical Efficiency.   Thermal Efficiency   Willans Line.   Heat Energy Stream. Conservation of Energy.

Steam Boilers.—Types of Boilers.—Mountings required.   Combustion of Fuel.   Air Required.   Draught.   Heat Transference.   Superheaters. Economisers.   Furnace Efficiency.   Boiler Efficiency.   Boiler Testing.

Steam Engines.—Rankine Cycle.   Mollier Diagram.   Total Heat and Temperature Diagram.   Piston Engines.   Cylinder Condensations. Jacketing.   Ratio of Expansion.   Two and three Stage Expansion.   Combined Diagrams.   Slide Valve and other Valve Types.   Zeuner Valve Diagram.   Reversing Gears.   Meyers Expansion Valve.

Dynamics of Steam Engine.—Steam Engine Mechanism.   Reciprocating Parts.   Correction of Indicator Diagram for acceleration pressure. Cushioning.   Twisting Moment Diagrams.   Flywheels.   Governing.   Elements of Steam Engine design.

Steam Turbines.—Conversion of Heat into Velocity.   The Turbine Cycle.   Types of Turbines and Condensers.   Elements of Turbine Design.

Refrigeration.—Types of Refrigerating machines.   The Cycle with a vapour as Working Substance.   The Mollier Diagram for Ammonia.

Applied Mechanics.—Constrained and Free Motion.   Virtual Centres. Relative Linear and Angular Velocities.   Types of Mechanism.

I.ʙ.—*Development of Power.*—Natural Sources of Power such as Wind, Water, Solar Energy, Coal, and other Fuels.

Gasification of Fuels.—Types of Gas Producers.   Chemical Equations of Fuel Combustion.   Types of Fuel.   Cost of Fuel.

Flow of Gases through Orifices and Pipes.—Venturi Meter and Diaphragm Meter for Measuring flow of Gas.   Pitot Tube.   Chimney Draught. Design of Chimneys.   Flow of Gases through Pipes.   Flow through nozzles with large Pressure Drop.   Work required to move Air, Fans, Blowers, and Compressors.   Types of Air-moving Machinery.

Propellers.—Work of Marine and Aerial Propellers.   Action of Air on Inclined Planes.   Aeroplanes.   Windmills.

Compressed Air.—Work of Compressing.   Multi-stage Compression. Intercooling.   Preheating.   Use of Compressed Air in Piston Engines and in Turbines.   Gas Turbine.   Hot air Engine.

Internal Combustion Engine.—Temperatures and Pressures Developed. Cycles used.   Efficiencies obtainable.   Comparison with Steam Engine.

Heat Transference.—Transmission of Heat by Conduction, Convection, and Radiation. Transmission from Gases or Liquids to Solids. Effect of Turbulence in the fluid on rate of Transmission.

TEXT-BOOKS.—Ripper's Heat Engine (*Longmans*), *or* Ewing's Steam Engine (*Camb. Univ. Press*), *or* Garratt's Heat Engines (*Arnold*). Inchley's Steam Boilers (*Arnold*). Goodman's Mechanics Applied to Engineering (*Longmans*).

REFERENCE BOOKS.—Perry's Steam Engine (*Macmillan*) Lucke and Flather's Text Book of Engineering Thermodynamics. Ennis' Applied Thermodynamics for Engineers Dalby's Steam Power (*Arnold*). Bone's Coal and its Scientific Uses.

HEAT ENGINES AND MECHANICS OF MACHINERY IIᴀ. AND IIʙ

These are more advanced courses on the Mechanics and Thermodynamics of Heat Engines, and deal with Details, Commercial Types of Machinery, and the Applications of Thermodynamics to practical problems

The following subjects are included :—

Mechanical Refrigeration.—Design of Refrigerating Machinery and Plant. Cost of Mechanical Refrigeration. Insulation. Calculation of dimensions of Cooling Coils. Applications to Industries.

Fuel Economy.—The problem of Heat-transference in Boilers, and lines on which improvement is likely to be made. Briquetting of Coal. Pulverised Coal. Gasified Coal and Surface Combustion.

Turbines.—Design of Steam Turbines. Cost of Steam Power. Experimental Gas Turbines and most promising lines of development.

Dynamics of Machinery.—Coupling Rods. Connecting Rods. Balancing of various types of Engines. Laws of Friction (dry and fluid). Methods of Lubricating. Types of Journals and Bearings. Design.

Evaporating and Condensing Apparatus.—Coefficient of Transmission of Heat. Mean Temperature difference. Heating by direct Fire, by Steam, and by Hot Liquids. Evaporation in a Vacuum. Multiple effect Evaporator. Jet and Surface Condensers. Dry and Wet Air-pumps.

Internal Combustion Engines.—Diesel and Semi-diesel Engines. Atomisers and Carburetters. Petrol, Benzine, and Alcohol as Fuels. Fuel mixtures. Comparative advantages of Solid, Liquid, and Gaseous Fuels.

REFERENCE BOOKS.—Ewing's Mechanical Production of Cold. Dalby's Steam Power. Davey's Gas Turbine. G. Franke's Handbook of Briquetting (*Griffin*). Hausbrand's Evaporating Condensing and Cooling Apparatus (*Scott-Greenwood*) Clerk & Burl's Gas, Petrol, and Oil Engines. Ricardo's Internal Combustion Engine. Proceedings of the Inst. of Mech. Eng. (London) ; and of the American Soc. of Mech. Eng.

HYDRAULICS.

The course consists of experimental work in the Hydraulic Laboratory, and lectures based on the following: —

Fluids at Rest.—Compressibility of water. Intensity and centre of pressure. Pressure head. Gauges.

Floating Bodies.—Conditions of equilibrium. Stability. Meta-centre. Stability of ships. Oscillations.

Fluids in Motion.—Steady and unsteady motion—stream lines. Bernouilli's Theorem. Venturi meter. Results of experiments.

Flow of Water through Orifices and over Weirs.—Co-efficients. Various types of orifices—Notches and Weirs. Derivation of equations. Thomson's principle of similarity. Empirical constants. Recent research.

Friction of Fluids moving past Solid Surfaces.—Movement of ships through water. Settling of small particles in a liquid. Stokes and Rittinger's formulæ. Friction with revolving discs. Friction in pipes and channels. Friction in lubricated bearings

Flow through Pipes and Open Channels.—Laws and losses. Rational and empirical formulæ. Hydraulic mean depth. Short account of development of the various theories. Results of experimental research—various formulæ proposed. Branched pipe and other problems.

Rivers, Tides, etc.—Catchment areas—Relation of rainfall and flow off ground. Measurement of stream discharge—floats, current meters, etc. Flow round river bends. Tidal action—Generation and effect of waves. Resistance and propulsion of ships.

Transmission of Energy by Fluids.—Presses, Cranes, Lifts, etc.

Hydraulic Machines.—General. Impact of water on vanes. Water wheels. Turbines. Reaction turbines—outward, inward, and axial flow. Vanes and blades. Efficiency. Application of Bernouilli's equations. Choice of turbines. Impulse wheels. Pelton wheels.

Pumps.—Cornish: Direct acting: Crank actuated: Bucket, piston, and plunge types. Centrifugal. Air-lifts. Pulsometer. Jet. Humphrey. Screw and rotary types. Miscellaneous types, and methods of raising water.

Goldfields Water Supply.—Details of the scheme. Prevention of corrosion.

TEXT-BOOK.—Lea: Hydraulics; *or* Gibson: Hydraulics and its Applications; *or* Daugherty: Hydraulics.

REFERENCE BOOKS.—Fidler: Calculations in Hydraulic Engineering. Dunkerley *or* Daugherty: Hydraulics. Attwood. Text Book of Theoretical Naval Architecture.

MACHINE TOOLS.

The course consists of drawing (mechanical), experimental work in the testing laboratories, and lectures, based upon the following:—

Precision Measurement.—Gauges and gauging systems.

Materials.—Vice-work: Annealing, hardening, etc. Forge tools and processes.

Description of Types and construction, together with the essential machine tools used in operating, of lathes, grinding machines, drilling and boring machines, milling, planing, shaping, punching, and

stamping machines. The spiral dividing head, differential indexing and other devices.

Theory of Cutting and abrasive action. Results of experiments, angle of cutting tools, cutting speeds. High speed tool steel. Testing the accuracy of machine tools.

Detailed Analyses of Various Operations such as screw cutting, cutting spiral gears. Cutting worm and worm wheels. Cutting bevel wheels. Use of dies, etc.

TEXT-BOOK.—Pull: Modern Workshop Practice.

REFERENCE BOOKS.—Lineham: Mechanical Engineering. Becker: High Speed Steel. Burley: Testing of Machine Tools.

MATERIALS AND STRUCTURES IA.

(Second Year.)

The course consists of Drawing (Civil) Experimental Work in the Applied Mechanics and Materials Testing Laboratories, and lectures based on the following :—

FIRST TERM :
Introduction.
(1.) Scalars : Mensuration—regular and irregular areas and volumes— Slide Rule : Squared paper work—graphing data—Curves and Laws : Graphical calculus—integration and differentiation—first and second moments of areas, etc.

(2.) Vectors : Graphical statics, vector addition and equilibrium polygons—Bow's notation—simple illustrations—frames, cables, arches, dams.

SECOND TERM :
ELEMENTS OF STRUCTURAL THEORY.
The principles of statics—laws of equilibrium—methods of calculation : algebraic and graphic resolution—algebraic and graphic moments : stress, bending moment, shearing force and thrust diagrams. Stresses in framed structures due to dead and live loads—roofs, highway and railway bridges, cranes, shear legs, towers, three-hinged arches. Stresses in simple beams due to fixed and rolling loads. Influence lines : statically indeterminate structures.

THIRD TERM :
ELEMENTS OF THE STRENGTH OF MATERIALS.
(1.) The principles of mechanics of materials—general nature of deformation and stress : stress, strain, and elasticity : bars—suspension links—riveted joints—t iin pipes : beams of wood, steel and reinforced concrete : struts and columns.

(2.) The properties of engineering materials : scientific, commerci l, and shop testing : machines and appliances for mechanical tests : behaviour of material under tensile, compressive, shearing, and transverse stress : stress-strain diagrams : impact, hardness, torsion, alternating and other tests.

TEXT-BOOKS.—Goodman: Mechanics Applied to Engineering, or Andrews or Morley: Theory and Design of Structures, and Popplewell and Carrington: The Properties of Engineering Materials.

POCKET-BOOK.—Andrews: The Structural Engineer's Pocket-book.

DRAWING OFFICE.—The graphical determination of stress, bending and shear diagrams of structures. Design of riveted and other joints, and simple beams.

TEXT-BOOK.—Charnock: Graphic Statics, Vols. I. and II.

MATERIALS AND STRUCTURE Iʙ.

(Third Year)

The course consists of Drawing (Civil) Experimental Work in the Applied Mechanics and Materials Testing Laboratories, and Lectures based on the following :—

FIRST TERM :
STRENGTH OF MATERIAL.

(1.) Principles of mechanics of materials—beams of uniform strength—deflection of beams and cantilevers, ends free and fixed : combined bending and tension or compression: columns and struts—eccentric loading : torsion and twisting—shafts and springs.

(2.) The actual properties of engineering materials—various ways in which materials are tested—steel and cast iron sections, wire, chains and ropes, copper, timber, cement, concrete, brick and stone, etc.

(3) Choice of materials and factors of safety—working stresses—various formulae.

SECOND TERM :
DESIGN AND DETAILING OF SIMPLE MEMBERS AND CONNECTIONS OF STRUCTURES AND MACHINES.

Joints in wood, steel and reinforced concrete : timber, rolled steel joints, built up steel and reinforced concrete beams and struts : wheels and shafts : standard notation.

TEXT-BOOKS.—Goodman : Mechanics Applied to Engineering, or Andrews or Morley : Theory and Design of Structures, and Popplewell & Carrington : The Properties of Engineering Materials.

POCKET-BOOK.—Andrews : The Structural Engineer's Pocket-book.

DRAWING OFFICE.—Design of details of construction, such as a plate girder a d stancheon, reinforced concrete lintel, timber floor or roof truss, boiler, pulleys, and shafting.

TEXT-BOOK.—Charnock : Graphic Statics, Vols. I. and II.

MATERIALS AND STRUCTURES IIa.
(Fourth Year.)

The course consists of Drawing (Civil) Experimental Work in the Applied Mechanics and Materials Testing Laboratories, and lectures based on the following :—

FIRST TERM :

STRENGTH AND ELASTICITY OF MATERIALS.

(1.) Complex stress—various theories of failure : thick pipes : rivets : crank shafts : rotating dru us : vibration : whirling of shafts—critical speeds : bending of curved bars—hooks, rings, arched ribs : flat plates : springs—vibration and safe loads : struts—higher theories.

(2.) Statically indeterminate structures : continuous beams—reinforced concrete : trussed beams, portals, etc.

(3.) Further effects of dead and live loads—influence lines—impact.

SECOND TERM :

STRUCTURAL DESIGN.

(1.) Structural data of buildings in general. floors, columns and roofs in timber, steel and reinforced concrete construction.

(2.) Structural data of bridges in general : highway and railway floors and trusses in timber, steel, and reinforced concrete.

TEXT-BOOKS.—Andrew or Morley : Theory of Structures, or Strength of Materials. Popplewell & Carrington : The Properties of Engineering Materials, and Harrington Hudson or Faber : Reinforced Concrete.

POCKET-BOOK.—Andrews : Structural Engineer's Pocket-book.

DRAWING OFFICE.—Design and complete working drawings of two small structures such as crane, bridge, reinforced concrete floor, cranked shaft, etc.

TEXT-BOOK.—Ketchum : Design of Highway Bridges, or Buildings.

MATERIALS AND STRUCTURES IIb.
(Fifth Year—Civil only.)

Instruction will be carried on by the Seminar system which may include formal lectures, but which will mainly endeavour to guide the student's reading and practical work in the Drawing Office and Laboratories and to fix and amplify the student's knowledge by discussion. Students are required to read engineering journals and scientific papers bearing on the subjects treated.

STRENGTH AND ELASTICITY OF MATERIALS.

Results of recent research—optical method (Coker) and Micro examination, life and endurance, etc.

THEORY OF STRUCTURES.

Result of recent investigations, Statically indeterminate structures : arches without hinges : swing bridges : high buildings : erection stresses : tunnels, dams, docks, and jetties : estimates and costs of work.

DRAWING OFFICE.—Design and specification of engineering schemes (or portion of such), such as a warehouse building, road or railway bridge, filter beds for water or sewerage, water tower, curved dam, dry dock, large mine head frame, grain silos, aeroplane shed.

METALLURGY.

A.—*Metallurgical Calculations.*—Thermochemical data.   Heat Balance Sheet of the Iron Blast Furnace, of the Bessemer Process, and of the Open Hearth Furnace.   Electric Smelting of Iron and Steel.   Heat Calculations in smelting of copper, lead, and zinc. Electric smelting of base metals.   Electrolytic smelting of Aluminium.

Metallurgical Processes.—Types of Crushing Machinery.   Rock-breakers.   Rolls.   Disc Crushers.   Battery Stamps.   Ball Mills.   Tube Mills.   Other wet and dry crushers.   Power used in crushing. Roasting of ores.   Refractory materials.   Fluxes and slags.   Smelting Furnaces.

Concentrating Processes.—Screens.   Trommels.   Classifiers.   Jigs. Tables and Vanners.   Flotation Processes.   Dry concentration by magnetic, electrostatic, or pneumatic methods.   Filters.

Wet Processes of Extracting Metals.—Copper Leaching.   Cyanide Process for gold ores.   Electrolytic Zinc.

REFERENCE BOOKS.—Richard's Metallurgical Calculations (McGraw Hill).   Gowland's Metallurgy of Non-ferrous Metals (Griffin). Harbord and Hall's Metallurgy of Steel (Griffin).

B.—*Physical Metallurgy—*

The Microscopic Examination of Ferrous and Non-ferrous Metals.

Preparation and development of structure of specimens for the microscope—General nature of the internal structure of materials and action under load.

The Determination of the Properties of Materials by means of testing considered from the standpoint of Metallography.

With particular reference to the range of validity of the ordinary theories and formulæ—Tension loading of brittle and ductile materials, Torsion loading, Transverse loading, Compression loading, Cross relationships of loadings, combined loadings—Ageing of Material.

The Control of the Properties of Material through the Control of the Internal Structure with particular reference to the Ferrous Metals.

The nature and origin of the structure of Alloys—The shaping of steel and the control of final properties during the shaping process —Engineering properties of normal carbon steels as functions of the Carbon content;   effects of elements other than Carbon—General theory of heat treatment—Engineering heat treatment and properties obtained.

Cast Iron.—Influence of carbon, silicon, manganese, etc., on the formation of grey or white iron.   Malleable iron and semi-steel. Case-hardening.

Alloy Steels.—Influence of nickel, chromium, manganese, and other elements.   Heat treatment of automobile steels, etc.

Engineering uses of other Metals, such as copper, lead, tin, zinc, aluminium, and tungsten. Effects of impurities. Specifications and tests.

Non-ferrous Alloys.—Brasses, bronzes, aluminium alloys, bearing metals; effects of impurities; tests and specifications.

Inspection of Metals.—Sampling, marking, etc.

Examination for defects.—Macroscopic examination : etching with acids, sulphur prints, etc. Causes of failure.

TEXT BOOKS.—Rosenhain: Introduction to Physical Metallurgy. Upton: The Structure and Properties of Materials of Construction.

REFERENCE BOOKS.—Morley *or* Andrews: Strength of Materials. Mills: The Materials of Construction. Howe Metallography of Cast Iron and Steel. Journal of the Institute of Metals and Journal of the Iron and Steel Institute. Gowland. Metallurgy of the Non-ferrous Alloys.

MINING ENGINEERING.

Excavating and Handling Materials—Methods and costs of clearing and grubbing Physical properties of soils. Loosening earth. Hauling. Scraper work. Cableways. Belt conveyors. Steam shovels. Dipper, Ladder, and Suction Dredges. Trench Excavators. Costs.

Explosives.—Low and High Explosives. Permitted Explosives. Detonators. Safety Fuse Breaking rock by explosives under various conditions.

Rockdrilling.—Types of air-drills used for mining, quarrying, and marine work Hand-jumping. Relative costs. Drill steel.

Boring.—Auger work. Churn or cable drilling. Rotary drilling, including Diamond, Shot, and Hydraulic Drilling.

Mining.—Shaft-sinking. Driving. Methods of Stoping. Timbering. Underground transport. Hoisting. Pumping. Ventilation. Mine Organisation and Accounts. Wages and Welfare. Mine Examinations and Reports.

Coal Mining Methods.—Special problems of coal mining. Methods of working and filling. Coal Cutters. Ventilation. Safety lamps. Prevention of Explosions.

Prospecting.—Prospecting for metals, coal, and oil. Geological conditions. Floaters. Loaming. Costeaning. Boring. Trial shafts. Divining rod. Electrical and magnetic ore-finding devices.

REFERENCE BOOKS. — Peele's Mining Engineers' Handbook (Wiley). McDaniel's Excavating Machinery (McGraw Hill). Cleland's West Australian Mining Practice.

MUNICIPAL ENGINEERING.

The course consists of drawing (civil), testing and experimental work in the Materials Testing Laboratory, and lectures based upon the following:—

Roads and Streets.—The construction and maintenance of country and suburban roads, city street and pavements, bridges, etc. The lighting, cleaning, and drainage of streets.

Road Materials, etc.—The testing of road materials and roads.

Refuse Disposal.—The collection of garbage and the destruction or disposal of refuse.

Town Planning, etc.—The principles of town planning. Municipal law.

TEXT BOOKS.—Vernon Harcourt: Civil Engineering as applied in Construction. A. H. Blanchard: Elements of Highway Engineering. The Literature of the Garden Cities and Town Planning Association (London).

REFERENCE BOOKS.—Blanchard and Drowne: Highway Engineering. Harger and Bonney: Highway Engineers' Handbook. Baker: A Treatise on Roads and Pavements. H. Frost: The Art of Roadmaking. Whinery: Specifications for Street Roadway Pavements. Soper: Modern Methods of Street Cleaning. Unwin: Town Planning in Practice. Lewis: Planning of the Modern City.

RAILWAY ENGINEERING.

The course consists of drawing (civil), and lectures based upon the following:—

Permanent Way.—Rails Rail Fastenings. Sleepers. Ballast and road-bed. The function of the superstructure. Stresses involved and strength of the component parts of the permanent way. Cuttings and embankments. Alignment. Haul and mass diagrams. Borrow pits. Culverts and minor structures. Points and crossings, crossovers, compounds, scissors, tandems, etc. Loops and sidings. Passenger, Goods Station, etc. Elevation of outer rail. Simple, compound, and spiral curve. Mountain and cable railways. Tramways. Signalling and interlocking. Specifications, taking off quantities, preparing estimates, etc.

The Locomotive, etc.—Adhesion, cylinder and boiler tractive efforts. Compound locomotives, etc. Motion, grade and curve train resistance. Virtual grades. Locomotive and grade problems. Function of bogie wheels.

Railway Expenditure.—Fixed charges and operating expense. Effect of distance, rise and fall, and curvature on train mile costs. Problems in change of ruling grade, distance, rise and fall, and curvature.

Railway Location, Construction, and Betterment Surveys.—Reconnaissance. The survey. Comparing routes. The estimates. Preliminary, location, construction, and betterment surveys, etc.

TEXT BOOKS.—A. Tomlinson: Exercises on Railway Engineering. W. G. Raymond: Elements of Railroad Engineering. War Office: Military Engineering Part VI. Crandall & Barnes: Railroad Construction.

REFERENCE BOOKS.—A. M. Wellington: The Economic Theory of Railway Location. War Office: Notes on Reconnaissance and Survey of Military Railways. Pettigrew & Ravenshear: Manual of Locomotive Engineering. Ripley. Finance and Organisation of Railroads. Camp: Notes on Construction. Lewis· Railway Signal Engineering (Mechanical). Davies: Engineering Office Systems and Methods. The Vols. of the Inst. of C.E., M.E., etc.

SURVEYING 1.

The course consists of field work and lectures based upon the following:—

The aims, scope, and general theory of land and engineering surveys—Principles and practice of chaining with chain, tape, and long wires—Principles of construction, use, and adjustment of surveying instruments—Compass, plane table, theodolite, sextant, level, barometer, and tachometer—Plotting and plan drawing—Elementary stadia survey—Levelling—Contouring—Setting out engineering works —Straight lines and curves—Elementary field astronomy.
Field Work.

Students are expected to acquire a working knowledge of the various instruments, adjustment of the level and theodolite, together with the calculations pertaining; also with the keeping of field notes systematically and correctly.

TEXT BOOK.—Johnson: Theory and Practice of Surveying, *or* Breed and Hosmer. The Principles and Practice of Surveying, Vol. I. (and Vol. II.).

REFERENCE BOOKS.—Harris· Australian Handbook for Government Surveyors. Wells and Clay: Field Engineer's Handbook.

WORKS MANAGEMENT AND LAW.

Management and Organisation of Works.—Organisation under a State department, a municipality, and a company respectively. Employment of labour. Industrial agreements. Insurance. Workers' compensation. Machinery inspection. Specifications. Tenders. Contracts. Books to be kept. Stores. Wages. Segregation of costs. Accounts. Reports.

Efficiency Engineering.—Work of Dr. F. W. Taylor and his followers. Time and Motion Study. Fatigue Study. Use of Planning and Costing Departments. Standardisation of stores, tools, methods, and tasks. Optimum speeds and conditions.

General.—Business correspondence. Methods of Filing. Interviews. Technical Reports and Papers. Professional Etiquette.

REFERENCE BOOKS.—Davies' Engineering Office Systems and Methods. McKillop's Efficiency Methods. Taylor's Principles of Scientific Management. Hoxie's Scientific Management and Labour.

AGRICULTURAL ENGINEERING.

A short course including practical work in operating steam, gas, and oil engines, and based on the following:—

Methods and cost of clearing land. Excavation of dams, drains, and ditches. Use of explosives. Country roads.

Farm water supply, irrigation, and sewage disposal. Farm buildings, tanks, etc., their construction, materials, and cost. Cold storage.

Farm motors including steam engines and boilers, gas engines, oil engines, water motors, windmills, electric motors. Tractors.

TEXT BOOK.—Farm Motors: by A. A. Potter (*McGraw-Hill*)

REFERENCE BOOKS.—Practical Talks on Farm Engineering: by R. P. Clarkson (*Doubleday, Page and Co.*). Australian Contractor's Price Book (Mayes). Coane's Australasian Roads.

ENGINEERING DRAWING AND DESIGN.
Second Year.

Fundamental principles. Lettering and dimensioning. Conventional methods with regard to sections and projections.

Names and junctions of the principal parts of a few simple machines and machine parts. The use of first principle in design of details. Measuring up and drawing simple engines.
Third Year.

Design of simple structures applicable to the course taken by the student.
Fourth Year.

Design and specification of such work as is indicated in the lecture courses.
Fifth Year.

Detailed design of a structure applicable to the course taken by the student: quantities, specification, and estimate for the same.

ENGINEERING EXCURSIONS.
All Years—First and Second Terms.

Visits to Engineering Works will be arranged at suitable times.

ENGINEERING LABORATORIES.

The object of the experimental work in the Laboratories is to provide in the first place for a rational understanding of main principles and afterwards for a systematic training in the application of those principles to practical purposes; to encourage initiative and afford training in methods of observing and recording results of tests and experiments.

In connection with the practical laboratory and testing courses great importance is attached to the manner in which the experiments made are recorded in the laboratory notebooks. The records and results of the data obtained must be submitted at the final examinations.

APPLIED MECHANICS LABORATORY.
Experiments, amongst others, on—

The use of measuring instruments. Triangle and polygon of forces, etc. The lever. Reactions of a beam. Stresses in the members

of a simple engine, roof truss, jib crane, shear legs, etc. Pulley blocks. Friction. Screw and hydraulic jacks. Compound and epicyclic trains of wheels. Pistons. Young's modulus of elasticity, Wire testing, Rubber testing (hysteresis). Shearing force and Bending Moment. Moment of inertia, etc. Deflection and breaking of wood beams. Shear stress and strain. Torsion of wires and bars. Oscillations, etc., of springs. Unifilar and bifilar suspensions. Energy of rotating bodies. Balancing of revolving and reciprocating masses. Deflection of columns. Whirling of shafts. Mechanical equivalent of heat. Testing pressure gauges, Indicating springs, etc.

NOTE BOOK.—Whitfeld & Tomlinson: Laboratory Instruction and Record Sheets.

HYDRAULIC LABORATORY.

Experiments, amongst others, on—

Fluid friction. Friction through pipes. Stream lines. Venturi meter. Pilot tube. Jets, vanes, etc. Discharge, etc., of water through different shaped orifices. Flow of water over weirs, and vertically through various orifices. Flotation of ships. Barker's mill. Hydraulic ram. Pelton wheel. Centrifugal pump. Thomson's turbine, etc.

NOTE BOOK.—Whitfeld & Tomlinson: Laboratory Instruction and Record Sheets.

HEAT ENGINE LABORATORY.

Experiments, amongst others, on—

Simple slide and Meyer's expansion valve. Stephenson's and other valve gears. Marcet's boiler. Indicating the simple steam engine. Effective pressure and crank effect diagrams. Inertia diagrams. Brake horse-power. The amount of priming water in steam. Calorific value of coal by Thomson's, the Berthelot-Mahler bomb, and other methods. Calorific value of gases and oils. Féry radiation and thermo-electric Pyrometers and Recorders. Orsat's and other methods of flue gas analysis. Feed water testing. Indicating oil and gas engines. Bailey oil tester. Viscometers, flash points, etc. Haldane's mine gas analysis, etc.

NOTE BOOK.—Whitfeld and Tomlinson: Laboratory Instruction and Record Sheets.

The Heat Engine Testing Laboratory is supplied with—

A 50 h.p. Willans steam engine.

50 h.p. three-cylinder Diesel engine.

Half-ton refrigerating set.

Le Rhone, Renault, and Sunbeam aeroplane engines.

Motors, fans, lifts, pumps, etc., from H.M.A.S. "Australia."

An 8 h.p. horizontal simple steam engine and boiler.

A 20 h.p. Crossley gas engine with up-draft and down-draft producers.

A 6 h.p. kerosene engine.

A 40 h.p. quadruple marine engine and boiler. Petrol motors.

The various recorders and recording instruments for testing purposes.

MATERIALS TESTING LABORATORY.

The Materials Testing Laboratory is supplied with—

A 50-ton universal testing machine, fitted with arrangements for tension, compression, bending, and shear tests, and automatic controlling and autographic devices.

A 150-kilogrammetres Torsion testing machine (Amsler) with autographic attachments.

A 5,000-kilogrammes Brinell and Ludwig hardness testing machine (Amsler).

A 100-kilogrammes 5-metre universal drop testing machine (Amsler) with autographic recording attachments.

Various extensometers, Shore's scleroscope, etc.

The apparatus for testing cement, etc.

TEXT BOOKS.—Hatt & Scofield: Laboratory Manual of Testing Materials. P. Taylor   Practical Cement Testing.

REFERENCE BOOKS.—Unwin· The Testing of Materials.   Mills: The Materials of Construction, etc.   Upton: The Structure and Properties of Materials of Construction.

ELECTRICAL TESTING LABORATORY.

The Laboratory is supplied with—

50 k.w. Alternator.

20 k.w. Converter, 200 v.d.c. to 30/100 v.d.c.

3 k.w. Converter, d.c. to a.c.

A 15 k.w. Generator, 100 volts d.c.

A 6 k.w. Generator, 50 volts d.c.

A 25 h.p. Motor Generator set, 600 v. to 250 v.

An 80 volts Accumulator set.

An Electric Heater, 3 k.w., 1000° c.

Various meters and testing apparatus.

PHYSICAL METALLURGY LABORATORY.

The Laboratory is supplied with—

Grinding and polishing apparatus for preparing metallic sections.

Etching reagents, students' microscopes, etc.

Zeiss microphotographic apparatus.

Electric heating furnace.

Three-stamp Battery with copper table, etc.

Mineral separation flotation machine.

Quartz crushing machine.

PUBLIC TESTING.

The University also carries out tests of materials for the general public. The scale of charges and general conditions are given on

AFFILIATED INSTITUTIONS.

The following resolutions weie passed by the Senate on 12th December, 1921:—

(i) That the recognition of the Perth Technical School and of the W.A. School of Mines as Affiliated Institutions of the University be renewed for a further period to 31st December, 1925.

(ii) *Qualifying Courses*—Statute No. 14.—The following courses are recognised as qualifying towards graduation during Session 1925:—

PERTH TECHNICAL SCHOOL—

(i) *Chemistry I.* for University students for admission to the University Annual Examinations in Chemistry I. (Arts, Science, and Engineering.)

Lecturer—R. R. Baxter, B.Sc.
Assistant Lecturer—L. W. Phillips, M.Sc.
Assistant—G. S. Compton, B.Sc.

(ii) *Inorganic Chemistry II. and Organic Chemistry I.* for admission to the University Annual Examinations in Chemistry II. (Science.)

Lecturer—R. R. Baxter, B.Sc.
Assistant Lecturer—L. W. Phillips, M.Sc.
Assistant—G. S. Compton, B.Sc.

(iii) *Inorganic Chemistry III. and Organic Chemistry II.* for admission to the University Annual Examinations in Chemistry III. (Science).

Lecturer—R. R. Baxter, B.Sc.
Assistant Lecturer—L. W. Phillips, M.Sc.
Assistant—G. S. Compton, B.Sc.

(iv) *Mathematics and Physics—Mathematics II.* for admission to the University Annual Examinations in Mathematics I. (Arts, Science, and Engineering.)

Lecturer—Ray Davis, B.Sc.

(v) *Mathematics (Special Higher Course)* for admission to the University Annual Examinations in Mathematics II. (Arts and Science.)

Lecturer—Ray Davis, B.Sc.

(vi) *Physics and Mechanics taken together* for admission to the University Annual Examinations in Physics I. (Arts and Science.)

Lecturer—Ray Davis, B.Sc.

Geology I. for admission to the University Annual Examinations in Geology I. (Arts, Science and Engineering).

Lecturer—G. S. Compton, B.Sc.

W.A. SCHOOL OF MINES—

(i) *Chemistry I.* together with an additional lecture per week and additional practical work in Quantitative Analysis for University students for admission to the University Annual Examinations in Chemistry I. (Arts, Science and Engineering.)

Lecturer—B. H. Moore, B.E.

(ii) *Geology, Mineralogy, and Petrology* taken together for admission to the University Annual Examinations in Geology I. (Arts, Science and Engineering.)

Lecturer—C. O. G. Larcombe, D.Sc.

UNIVERSITY EXTENSION LECTURE BOARD.

The University Extension Board is prepared to receive and consider applications for courses of University Extension Lectures to be delivered in Perth, or in any suburb of Perth or country town.

Applications may be made either by an organisation, such as a Progress Association, or by a Committee specially formed for the purpose. They should be addressed to the Vice-

Chancellor of the University, Perth, who will forward a syllabus of lectures and subjects, and give any other information that may be desired.

Provision may be made both for separate lectures and for continuous courses. A centre may choose to ask for only one or two lectures; it may ask for a continuous course of, say, six lectures on one subject by one lecturer, or it may ask for a composite course of, say, six lectures by six different lecturers.

Applicants must undertake to become responsible for the local management and expenses of the lecturer, and to provide the lecturer with accommodation and hospitality.

It has always been found that an essential factor in the success of the University Extension movement is one enthusiast at the local centre. Much may be done, of course, by organizations already in existence—Mechanics' Institutes, Progress Associations, and the like—but where no such organization exists, one person sufficiently interested to take the trouble to interest a few others will soon succeed in forming a strong committee. After that, the success of the centre will mainly depend on the quality of the lectures given.

APPOINTMENTS BOARD.

(*Provisional   Regulations*)

An Appointments Board shall be created to assist Students and Graduates to find suitable appointments.

The Board shall consist of :—

    (a.)   Two members representing the Senate who shall not be members of the Teaching Staff.

    (b.)   Two members representing the Teaching Staff.

    (c.)   One member representing the Guild of Undergraduates.

    (d.)   Additional members representing outside business or professional intere ts to be co-opted by the members appointed under (a.), (b.), and (c.)

GUILD OF UNDERGRADUATES—RULES AND CON-STITUTION.

1.   This association shall be known as the Guild of Under-graduates of the University of Western Australia.

2.   The Guild shall be an organised Association of Under-graduates for the furthering of their common interests, and shall, through its Council, be the recognised means of com-munication between the governing authorities and the teaching staff on the one hand and the students on the other hand.   Pro vided that in matters affecting the Sports Association, the latter body may, with the consent of the President of the Guild, communicate directly with the governing authorities.

3.   Within the Guild shall be formed a Women's Club, a Men's Club, and a Sports' Association, particulars of which are hereinafter stated.

Membership.

4.   All students attending qualifying courses at the Univer-sity including Graduates and Undergraduates shall be members of the Guild.   Graduates not attending lectures may also be-come members of the Guild, on payment of the subscription specified below, but shall not be eligible to hold any office on the Council of the Guild, excepting that of Treasurer.

The Guild Council may reserve to itself the right to confer Honorary Membership on any person.   Such honorary members not to have a vote.

5.   Membership shall be optional for students taking special courses—the question whether a given course is a special course to be decided by the Vice-Chancellor.

6.   Subject to all provisions herein and subject especially to the provisions of Section 29, membership of the Guild shall entitle students to—

(*a.*) Full membership of the University Cricket, Football, and Rowing Clubs, and such other Clubs as shall be recommended by the Guild Council and approved by the Professorial Board.

(*b.*) Full membership of the Men's or Women's Club.

(*c.*) A free copy of each issue of the " Black Swan," the official organ of the Guild of Undergraduates.

Subscriptions.

7. The annual subscription for members shall be paid at the time of enrolment at the University, and shall be as follows :—

	Men.	Women.
Whole-time Students . . . Graduates Students taking special courses . Part-time Students . .	} £1 1s. 15s.	15s. 10s.

For the purposes of these rules " part-time students " shall mean students who are engaged in some occupation other than that of attending University classes. " Whole-time students " shall mean students who are engaged in attending University classes only.

8. The Guild Council shall apportion the subscriptions as follows :— —

	Guild.	Maga-zine.	Club.	Sports.
Men Students (whole-time)	2s. 6d.	3s. 0d.	3s. 0d.	12s. 6d.
Men Students (part-time)	2s. 6d.	3s. 0d.	3s. 0d.	6s. 6d.
Women Students (whole-time)	2s. 6d.	3s. 0d.	3s. 0d.	6s. 6d.
Women Students (part-time)	2s. 6d.	3s. 0d.	3s. 0d.	1s. 6d.

Management of Guild.

9. The Guild shall meet upon the following occasions :—
   (a) Not later than 19 days after the commencement of lectures in each year.
   (b) On or before the second Friday in the month of October in each year.

(c) At such other times as may be determined by a reso-
lution of the Guild Council, or desired by a petition
in writing of fifteen financial members of the Guild,
but only for the consideration of the particular
business specified in the resolution or petition afore-
said.

A quorum of at least fifteen per cent. of the total number of
financial members of the Guild shall be requisite to render valid
the proceedings of any General Meeting.

Procedure at Ordinary General Meetings.

10.   The procedure at ordinary general meetings of the
Guild shall be as follows:—

(a) Presidential address.

(b) Confirmation of Minutes of previous General Meet-
ing.

(c) Presentation and adoption of Treasurer's half-yearly
Financial Statement and duly audited Balance
Sheet.

(d) Presentation and adoption of Secretary's half-yearly
report .

(e) Confirmation or rejection of any By-laws or amend-
ments to the Constitution which the Council may
have made since the preceding General Meeting.

(f) General Business.

On the completion of (e) at the first General Meeting held
in each year the Guild Council of the preceding year shall
formally go out of office.

The Guild Council.

11.   The Guild Council shall consist of a Patron—to be
elected at the first General Meeting held in each year—and the
following financial members of the Guild, elected as hereunder
specified:—

(a) *Executive.*—President, two Vice-Presidents, one of
whom shall be a woman, Hon. Secretary, Hon.
Treasurer, and Hon. Assistant Secretary.

(b) *Ex Officio.*—The Representative of the Guild on Convocation, the Editor of the "Black Swan," and the Returning Officer. The President of the Sports Council or his delegate shall also be a member of the Guild Council but without a vote.

(c) * Three Representatives of each of the teaching Faculties, namely, Arts, Science and Engineering, together with two co-opted Members.

12. If a member of the Council shall be absent without leave from two consecutive meetings of the Council, he or she shall forthwith cease to be a member and the Council shall declare the seat vacant.

13. In the event of a vacancy occurring in the Council, it shall be filled as follows :—

(*a.*) If the vacancy occur among the executive officers of the Council, the Council shall elect a member of the Guild to fill the vacancy.

(*b.*) If the vacancy occur among the representative members of the Council, the original electors of such member shall elect a representative to fill the vacancy.

Officers or members of the Council so elected shall hold office until the next general election of officers or representative members of the Council respectively.

14. The Council shall meet at least once in each calendar month of the session. Notice of the meeting shall be posted at the University and forwarded to each member not less than four days before the date fixed for the meeting. Eight members shall form a quorum.

15. Any two members of the Council may in writing require the Secretary to call a special meeting of the Council, and such meeting shall be called within ten days by notice sent to each member, stating the object for which it is called.

16. The powers and duties of the Council shall be :—

(i.) To carry into effect the objects stated in Section 2.

(ii.) To promote Social and Academic Unity among students.

* Subject to amendment of Statute No. 16.

17.   The Guild Council may—

    (*a.*) Make such amendments to this Constitution as they may from time to time think fit, and all such amendments shall have binding force unless repealed by a general meeting ; provided that the Guild subscription shall not be increased unless the consent of a general meeting be first obtained.

    (*b.*) Make or amend or rescind by-laws not inconsistent with these rules, but any such change shall ˜ot remain in force after the next annual general meeting, if at such general meeting a resolution is passed revoking the same.

Secretary.

18.   The Secretary shall keep all necessary records of the proceedings of the Guild, conduct all necessary correspondence and keep such registers as may be required.   He shall prepare for the Council the Annual Report to be presented to the first General Meeting held in each year as provided in Section 9 (a).

Qualifications essential to Candidates for Guild Offices.

19.   (a) Eligibility for the offices of Representative on Convocation, President, Secretary, or Treasurer, shall be confined to members of the Guild, subject to Section 4, who have formerly held office on the Guild Council for at least one year prior to their candidature for the above-named offices.

(b) For all other offices except such as are specifically reserved to one sex, or to students of any particular Faculty, the only qualification necessary to render a candidate eligible shall be that he be a financial member of the Guild in regular attendance at lectures.

Methods of Election to Guild Offices.

20.   (a) All elections shall be by ballot upon the form provided under Section 21, and shall be conducted under the personal supervision of the Returning Officer, or his duly appointed deputy, acting in accordance with the provisions contained herein.

(b) The Treasurer of the Guild, Editor of the Magazine, and Returning Officer shall be chosen by a ballot of all members of the Guild Council, the Treasurer on or before the 2nd Friday

o1 October in the year preceding his year of office, the Editor of the "Black Swan" and the Returning Officer at the first meeting of the Council in each year immediately following the meeting at which the co-opted members are chosen.

(c) The President, Hon. Secretary, and Hon. Assistant Secretary, together with the Representative on Convocation, shall be chosen by a ballot of all financial members of the Guild, which shall be taken in the manner hereunder provided on or before the second Friday in October of the year preceding that for which they are elected.

(d) One Vice-President who shall be a man and *ex officio* President of the Men's Club, and one Vice-President who shall be a woman and *ex officio* President of the Women's Club shall likewise be chosen by a ballot of all men and women students, respectively, who are entitled to vote for the office of President. Such ballot shall be taken on the same day as that for President, Secretary, Assistant Secretary, and Representative on Convocation.

(e) *The representative members of the Council shall be chosen by a ballot of all financial members of the Guild for that year in the Faculty concerned voting as a whole. At least two representatives members from each Faculty must be undergraduates, one of whom must be a student of the first or second year.

(f) The co-opted members shall be chosen by a ballot of the Guild Council taken at the first meeting of the Council in each year following the election of Faculty Representatives. At this meeting there shall also be elected two auditors who shall not be members of the Council.

Duties of the Returning Officer.

21. It shall be the duty of the Returning Officer not less than ten clear days prior to the date fixed for any election, other than elections by the Guild Council, to invite nominations for any such offices by notices posted in conspicuous portions of the University precincts, including the Departments at Crawley. All nominations of persons qualified to contest any election must bear the signature of the Proposer and Seconder (who shall be persons similarly qualified), and the written consent of the can-

*Subject to amendment of Statute No. 16.

didate, and must be in the hands of the Returning Officer not later than 9 p.m. on the third clear day before that fixed for the election. Names of candidates for all offices shall be published at the University as they are received by the Returning Officer.

Polling.

22. (a) On the day fixed for any elections, other than elections by the Guild Council, the Returning Officer or his deputies shall be in attendance at Irwin Street and at Crawley between the hours of 9 a.m. and 7 p.m. for the purpose of issuing ballot papers to persons duly qualified to vote at such elections, and of receiving their votes. Should any person who is unable to attend the University on the day fixed for such elections notify the Returning Officer of this fact at least two days prior to the elections he shall be supplied with the ballot papers to which he is entitled and may vote by post. Such votes shall be addressed to "The Returning Officer, Guild of Undergraduates, University of W.A.," and must be delivered at the University not later than 5 p.m. on the day fixed for the election.

(b) All elections reserved to the Guild Council shall be decided by a ballot taken at a meeting of the Council.

Sports Association.

23. The Sports Association shall be an Association for the general control and management of athletic sport at the University.

24. The Sports Council of the Sports Association shall consist of a President (who shall be a man and elected by the men students), a Vice-President (who shall be a woman, and elected by the women students), and a Secretary, together with a Treasurer elected by the Sports Council of the preceding year, and two representatives from each of the following clubs, viz., the Rowing Club, Cricket Club, and Football Club, and such other clubs as shall be determined upon under Section 6 (a).

25. It shall be the duty of the Sports Council to receive the amount allotted from the Guild subscriptions to the Sports Association, and to apportion the whole, or part thereof, to the athletic clubs mentioned in Section 24, in such a manner and in such proportions as the Sports Association shall think fit, and, further, render to the Guild Council a report and an audited

balance sheet to be submitted to the half-yearly General Meeting of the Guild of Undergraduates.

Finance.

26. The Guild Treasurer shall hold office for one Calendar year, and shall be elected by the Council in the month of October in the preceding year. He shall be eligible for re-election.

27. The Guild Treasurer shall—

(a) Receive all moneys due to the Guild, or to any of the Clubs as provided in Section 29.

(b) Pay to the Sports Association its due proportion of the Guild subscriptions as provided in Section 8, and pay to all other clubs affiliated with the Guild such moneys as may be allocated to them by the Guild Council, and shall receive from such clubs an annual balance sheet duly audited.

(c.) Keep books showing all receipts and expenditure and moneys belonging to the Guild.

(d.) Prepare an annual statement of revenue and expenditure, which shall be audited by two Auditors appointed by the Council, and shall be submitted to the first general meeting held in each year, in accordance with Section 9 (a.). A copy of the Annual Balance Sheet shall each year be forwarded to the Professorial Board for transmission to the Senate.

28. Subscriptions made to any individual Club or Society shall belong to that Club or Society solely, but any general funds, other than members' subscriptions, received by the Guild, shall, subject to the wish of the donor, be retained or distributed at the discretion of the Guild Council absolutely.

29. Any Club authorised under the provisions of Section 6 (a), which is desirous of making a further levy upon members to increase its subscription, must first obtain the consent of the Sports' Council if it be an athletic club, or of the Guild Council if it be not an athletic club, and only such persons who pay such levy shall be entitled to full membership of the club making such levy.

General.

30. Without prejudice to any provision herein the Sports Association, Women's Club, and/or Men's Club, shall have power to form Committees or Sub-Committees for their internal management, and to make rules binding upon their members.

31. No Club or Association in any way affected by these rules shall issue any appeal for funds, or shall affiliate itself with any body not connected with the University, without the sanction of the Guild Council.

UNIVERSITY COLOURS.

It has been decided by the Guild of Undergraduates and approved by the Senate that the University Colours shall be the colours of the three existing teaching Faculties of Arts, Science, and Engineering, namely, *Royal Blue, Emerald Green, and Gold.*

BOARDING AND LODGING HOUSES FOR STUDENTS.

For the convenience of students seeking board and lodging a Register of Boarding and Lodging Houses has been prepared and may be consulted on application to the University Office or to the Hon. Secretary of the Guild of Undergraduates. Although care has been taken to include in the Register only Boarding and Lodging Houses that appeared on inspection likely to be suitable or that had been recommended by students, the University obviously cannot guarantee the correctness of all the information supplied by proprietors for inclusion in the Register. In all cases students themselves must arrange their own terms with proprietors when engaging rooms.

REPORT OF THE SENATE FOR THE YEAR ENDING 31st DECEMBER, 1923.

The Senate of the University of Western Australia, in pursuance of Section 41 of "The University of Western Australia Act, 1911," has the honour to transmit to His Excellency the Governor a report of the proceedings of the University during the year 1923.

OFFICERS.

At a meeting of the Senate held on 19th March, the Hon. Athelstan John Henton Saw, O.B.E., M.L.C., M.A., M.D., F.R.C.S. Edin., was elected Chancellor for the year, and Mr. Cecil Andrews, M.A., was re-elected Pro-Chancellor, Professor E. O. G. Shann, B.A., was re-appointed Vice-Chancellor for 1923. At the December meeting of the Senate, Professor N. T. M. Wilsmore, D.Sc., was appointed Vice-Chancellor for 1924.

SENATE.

The Senate held one special and ten ordinary meetings during the year. The attendances were as follows:—

	No.
Saw, The Hon. A. J. H., O.B.E., M.L.C., M.A., M.D., F.R.C.S. Edin., Chancellor	10
Andrews, Cecil, M.A., Pro-Chancellor	10
Shann, Professor E. O. G., B.A., Vice-Chancellor ..	10
Atkinson, R. C. E., M.A., M.D., D.P.H.	8
Battye, J. S., Litt.D., LL.B.	9
*Colebatch, The Hon. H. P., M.L.C.	0
†Ewing, The Hon. J.	0
‡Hancock, W. J., M.I.C.E., M.I.E.E.	1
James, The Hon. Sir Walter, K.C.	7
Jull, R. H. M., M.B., C.M.	10
Kirwan, The Hon. J. W., M.L.C.	5
Murdoch, Professor W. L. F., M.A.	9

No.

Riley, His Grace, the Most Reverend, C.O.L., O.B.E.,
     M.A., LL.D., D.D., V.D.   8

Roberts, G. M.   5

Ross, Professor A. D., M.A., D.Sc.   11

Sandover, A.   8

Simpson, E. S., D.Sc., B.E.   7

Somerville, W.   5

§Walter, W. A. G., M.A.   8

Whitfeld, Professor H. E., B.A., B.E., M.I.M.M.,
     M.I.E.A. **9**

In March the seats on the Senate held by Dr. R. C. E. At-
kinson, Dr. J. S. Battye, and Professor Murdoch fell vacant by
lapse of time. To fill the vacancies Dr. J. S. Battye was re-ap-
pointed by the Governor, and Dr. R. C. E. Atkinson and Pro-
fessor Murdoch were elected by Convocation.

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*Resigned on appointment as Agent General for W.A. in Lon-
don.

†Appointed by the Governor in succession to the Hon. H. P
Colebatch, resigned.

‡Absent through illness.

§On leave of absence from September for six months.

CONVOCATION.

Convocation held two ordinary meetings during the year.
At the meeting held on 13th July, Mr. W. A. G. Walter, M.A.,
was elected Warden. The membership of Convocation at the
close of the year was 470.

FULL TIME TEACHING STAFF.

Mr. W. A. Laidlaw, B.A., was appointed Lecturer in Classics
and Philosophy and assumed duty on 31st May. At the Novem-
ber meeting of the Senate Miss D. F. Milner, B.Sc., was ap-
pointed Assistant Lecturer in Zoology from 1st January, 1924.

GRADUATION CEREMONY.

By kind permission of His Excellency the Governor, Sir Francis Newdegate, the annual Graduation Ceremony was held in the Government House Ballroom on the 27th April, 1923. The following degrees were conferred:—

Degree of Bachelor of Arts.

John Joseph Ahern, Marjorie Kathleen Battye, Kathleen Mary Beart (*in absentia*), John Hollis Campbell, Dorothy Francis Clarke, Douglas Herbert Collins, Lynda May Colliver, Frank Constantine, Stanley Gordon Demasson, Talbot Albert Walls Downing, Edna Elizabeth Esme Ferguson, Mary Josephine Flynn, William Charles Joseph Gavan-Duffy, Merab Harris, Adrian Meredith Hayward, Marcia Irene Hodges, Rosabelle Charlotte Henville, John Hetherington, Mary Kathleen Hope, Jack Howieson, Margery Ruth King, Janet Gillespie Lyon (*in absentia*), Cathleen Thelma Matheson, Helen Helga Mayne, Margaret Isabel McLachlan (*in absentia*), Jessie Welsh Martin (*in absentia*), Doris Joyce Mortlock, Carrie Margaret Napier, Winsome Barbara Noble, Philip Aloysius Rahill, Aileen Mary Reid, Ethel Lincoln Street, Myrtle Teasdale, Phyllis May Turvey, John Waiton, Enid Castieau Whitfield, William Gordon Worner, Amy Ruth Wright, Arthur Thomas Williamson.

Degree of Bachelor of Arts (War).

Thomas Sten.

Degree of Bachelor of Arts (with Honours).

Charles Ripley Bull, Gwendoline Cowley Dowson, Elizabeth Grace Lefroy (*in absentia*), Annie Rachael Eileen Kitto.

Degree of Master of Arts.

Edward Pattison William Clarke.

Degree of Doctor of Letters (ad eundem gradum).

James Sykes Battye.

Degree of Bachelor of Science.

John Edwin Ingliston Cairns, John George Carnegie Campbell, John Edward Cummins, Alfred Leigh Jenkinson, James Allen Cohn Kline, Maxwell Arthur Mackey, Cyril Morton Murphy, Dora Rotenberg.

Degree of Bachelor of Science (War).
George Spencer Compton.

Degree of Bachelor of Science (with Honours).
Kennedy Whitchell Burnside.

Degree of Bachelor of Science in Agriculture.
Ronald George Lapsley, Laurence John Hartley Teakle.

Degree of Bachelor of Science in Agriculture (War).
John Taylor Armstrong.

Degree of Doctor of Science.
Charles Oswald George Larcombe.

Diploma in Agriculture.
Arnold Barker Adams.

Degree of Bachelor of Engineering.
Norman Fernie *(in absentia)*, Charles Gallagher *(in absentia)*, Edwin Burton Petherick Grace, Eric Edmund Jones *(in absentia)*. Ewart Somers.

Degree of Bachelor of Medicine (ad eundem gradum).
Leslie Ernest le Souef.

UNIVERSITY PRIZES.

1. The Lady Hackett Prize for the candidate taking the highest place in the University Annual Examinations in Latin II. was awarded to Harold Walter Bailey.

2. The Sanderson Prize in Philosophy for the candidate taking the highest place in the University Annual Examinations in Logic and Ancient Philosophy was awarded to John Evenden Virtue.

3. The Lady James Prize for the candidate taking the highest place at the University Annual Examinations in Physics I. and Chemistry I. was awarded to Philip Cornelius Hogan.

4. The Amy Saw Scholarship, open to all matriculated students who have completed two years for a degree of Bachelor of Science, either in Pure Science or in Agriculture, and are attending lectures in the subjects for the third year of such course, was awarded to Wilby Edison Cohen.

5. The medal, provided from the funds donated by the Adelaide University Committee (W.A. Centre), for the candidate taking the highest place in the Leaving Certificate Examination in English, was awarded to Veronica Margaret Kealy.

6. The W H. Vincent Scholarship in Agriculture, for the candidate obtaining the highest marks in English, Mathematics, and a Science subject, was awarded to Francis Osborne Grogan.

7. The Exhibition and Prizes in Music open to candidates at the October Public Examinations in Music were awarded as under :—

- (a) Exhibitions of £12, Grade I.—Veronica Lake (Loreto Convent, Osborne). and Eileen Joyce (Teacher, Miss R. Spriggs, Kalgoorlie).
- (b) Exhibitions of £6, Grade II.—Violet Cairnshill (Teacher, Miss E. F. Patrick, North Fremantle), and Ida Pretorn Pallier (St. Brigid's Convent, West Perth).
- (c) Prize in Singing, £6—Mary Elizabeth Christian (Mrs. Sutherland Groom, West Perth).
- (d) Prize in Pianoforte, Grade VI., £3 3s.—Verna Freedman (Miss E. F. Patrick, North Fremantle).

STUDENTS.

The number of students who enrolled in the three Faculties of Arts, Science and Engineering was as follows:—

Faculty of Arts	234
Faculty of Science	89
Faculty of Engineering	30
Total	353

PROGRESS OF THE UNIVERSITY.

Increasing applications for enrolment have rendered necessary a gradual tightening of the conditions under which students can be admitted. The following table is of interest in this regard:—

Year.	Total Students Enrolled.	Matriculated Students.	Percentage of Matriculated Students
1913	184	93	51
1914	182	118	65
1915	214	132	62
1916	214	157	73
1917	236	148	63
1918	270	221	82
1919	412	335	81
1920	332	318	96
1921	326	323	99
1922	322	318	98
1923	353	356	99

* Increase due to return of students from service with A.I.F.

THE PERMANENT SITE.

In response to the representations of the Chancellor the Government set aside at the end of last year an amount of loan money sufficient for the erection of Natural Science Buildings to accommodate the Departments of Biology and Geology. Plans for these buildings were prepared by the Principal Architect in consultation with the Heads of the Departments concerned and with the General Purposes Committee. Tenders were then called and a contract for the erection of the buildings at Crawley has been signed by Mr. C. W. Arnott. The building, which is to be completed during 1924, will stand on the high land to the north of the Perth-Fremantle Road with a frontage of 210 feet. To facilitate microscopical work, the laboratories will face south, and present a large area of glass on that frontage. The facades will be relieved by Doric porches in Donnybrook stone and the external angles emphasised with stone quoins. The building is designed to reduce as far as possible the danger of fire, and will provide laboratory accommodation

sufficient to obviate the present necessity of duplicating classes. By this means it is hoped that the strain upon the Teaching Staff incidental to the present discrepancy between accommodation and enrolment will be lessened. The foundation stone of the new building was laid by the Hon. the Premier on 1st September. Fair progress has been made by the contractor.

THE FINANCIAL POSITION.

The University grant from the Government of £17,100 has been reduced to £17,000 for the year 1924, and in addition the University has been notified that the special grant of £300 from the Repatriation Department, which has been received for several years, will not be continued after the present year. Unless the present grant is increased, not only will the University be unable to extend its usefulness, but even its existing activities may have to be reduced.

HACKETT ESTATE.

During May the trustees of the estate of the late Sir J. W. Hackett handed over to the University the sum of £18,000, being the endowment of the Chair of Agriculture. It was decided that the payment of the principal of the Hackett Bequest be signalised by naming the Chair of Agriculture ''The Hackett Chair of Agriculture.'' The capital sum has been invested by the purchase of 6 per cent. debentures, value £11,000, from the Melville Road Board, and 6 per cent. debentures, value £7,000, from the Collie Municipality, in each case for a term of 30 years.

AGRICULTURAL SCHOLARSHIPS.

Mr. W. H. Vincent presented the capital sum of £1,100 for the endowment of the W. H. Vincent Scholarship in Agriculture, and Mr. Phineas Seeligson the capital sum of £1,000 for the endowment of the Henry Seeligson (Senior) Scholarship in Agriculture. The sum of £1,100 has been invested in a W.A. Government Treasury Bond at 5½ per cent., whilst the amount of £1,000 has been placed on mortgage.

EXHIBITIONS AND PRIZES.

Mr. J. MacCallum Smith, M.L.A., renewed his Exhibition of £40 in the Faculty of Science. Mrs. T. D. Mackie presented a prize of £3 3s. for competition in the Public Examinations in Music, Pianoforte, Grade VI.

ENDOWMENT LANDS.

As intended by the University Act, the leasing of endowment lands to suitable tenants has continued, and some increase in the revenue from this source has resulted. Under the terms of an amendment to the Workers' Homes Act, passed during the Parliamentary Session of 1921, workers' homes may now be erected on leases of University land.

SCHOOL CERTIFICATE EXAMINATIONS.

The following are the details of the Examinations held in November, 1923:—

	Number of Candidates who presented themselves for full Certificate.			Number of Candidates who obtained Certificate.		
	Perth Centres.	Local Centres.	Total.	Perth Centres.	Local Centres.	Total.
Junior	516	358	874	296	175	471
Commercial Junior ...	54	12	66	5	3	8
Leaving	222	101	323	122	51	173
Commercial Leaving	4	1	5	2	1	3
Total ...	796	472	1,268	425	230	655

EXAMINATIONS IN MUSIC.

The Music Examinations were held in May and in October (for theory only) and in October-November (for the practical

tests). The numbers of entries and of certificates gained were as follows:—

Examinations, 1923.	Entered.	Passed.
May—Theory Examinations	39	31
September—Theory Examinations	305	258
October—Practical Examinations	490	394

The figures for the Examinations show a very satisfactory increase upon those of the previous year.

EXAMINATIONS IN ART.

The Senate has appointed an Advisory Board for Examinations in Drawing, consisting of the Vice-Chancellor, Professor Whitfeld (Chairman), Associate Professor Tomlinson, and Messrs. J. H. Eales, J. W. R. Linton, G. Pitt-Morison, G. T. Poole, A. R. L. Wright, and A. B. Webb.

The Board has issued a printed syllabus for examinations in Art at Junior and Leaving Standard and also for an Art Certificate for Teachers of Drawing. The first examination for the Art Certificate will be held during 1924.

OUTSTANDING REQUIREMENTS OF THE UNIVERSITY.

The University would be better able to train its graduates and to meet the calls made upon it for information and for advice if the community, whose welfare it seeks, afforded it greater support by gifts and endowment.

In other States and countries the normal sources of University revenue are three, and the proportion drawn from each is expected to approximate to one-third. These sources are (1) government grants, (2) fees and municipal grants, (3) income from gifts and endowments. The revenue of our own University comes almost entirely from the first of these sources. Income from fees being excluded by the wish of Parliament the third source remains to be developed. Already something has been done by the State and by private citizens. More needs to be done if the University is to develop its full power to

serve. The following list of outstanding and immediate needs is put forward in the hope that it may call forth further generous aid.

A.—Faculty of Arts.

Every department in the Faculty of Arts needs increased staff to make possible the extension of tutorial work. In particular the Department of French and German needs at once an additional £200 per annum for this purpose. That of Philosophy needs equipment for a psychological laboratory, which would cost approximately £120. That of History and Economics needs a further income of £70 per annum to enable it to index and file current literature, a useful first step in training its senior students for research work. All the arts departments would welcome gifts of books and money for the purchase of standard works of reference, and of pre-1913 files of periodicals. Lists of such books may be obtained on application to the Faculty.

B.—Faculty of Science.

Of necessity the equipment of scientific departments is costly, and the price changes since 1914 have been a severe handicap to a young University. In general the science departments ask for endowments for research scholarships. The young graduate who is enabled to continue his work beyond the stage of instruction is a likely source of fruitful discoveries. Such work, however, calls for much apparatus and for full and well-indexed literature of previous research work, as well as for the maintenance of the student while engaged in his research. Some particular needs are here stated, but this list is by no means exhaustive.

Agriculture.

Land for research work will be set apart at the new Agricultural College Farm, in the country. An assistant in agricultural chemistry, partly set free from routine teaching and employed upon such research, is thus needed. The endowment of this work and of part, at east, of the assistant's salary, calls for an income of from £500 to 600 per annum.

The teaching department at the University also needs— (1) analytical apparatus, to a cost of £100; (2) a polarimeter and a refractometer, costing £150.

Biology.

This department is in pressing need of microscopes and books. Thirty new microscopes will be wanted for the students to be admitted to the classes when the new building at Crawley is occupied. Cost, about £400. Sets of periodicals and standard works in Zoology and Botany are also urgently needed.

Chemistry.

Requires—

1. A post graduate scholarship to enable a pass graduate in Chemistry to be trained in research. Amount about £100 per annum.

2. A set of bound volumes of the "Zeitschrift fur physikalische Chemie," £50.

3. Hilger's chemical spectrometer with accessories, £60.

Geology.

Whose workshop is of value to all the scientific departments, needs—

1. A Universal milling machine, £300.

2. A planing machine, £100.

3. A Ford motor car for use in field work and excursions, £250.

Physics and Mathematics.

Needs—

1. A Coolidge X-ray tube (for X-ray and ionization experiments), cost £40.

2. A Du Bois half-ring electromagnet (for investigations in magnetism and magneto-optics, testing of alloys, etc.), cost £110.

3. An Ultra-violet spectrograph set (for laboratory tests and researches into occurrence of rare minerals, etc.), cost about £175.

C.—School of Engineering and Mining.

The School already housed at Crawley in the old Shenton home, calls for—

1. New or second-hand machinery of small commercial size (five to fifty horse-power), for testing and experimental purposes, such as an ammonia refrigerating machine, a rock-crushing plant, centrifugal pumps, etc.

2. Materials-testing plant, such as a large compression machine.

3. Measuring instruments, standard screws, electric meters and other measuring and recording instruments.

Further information on the needs of the University, and of its departments may be obtained from the Vice-Chancellor, Irwin Street, Perth, who will always be glad to hear from or of intending benefactors.

APPENDIX.

Appended to this report are the annual statement of receipts and expenditure for the year ending 31st December, 1923, duly certified by the auditor. A statement of the number of candidates who obtained passes in the Annual and Supplementary Examinations in November, 1923, and February, 1924, is also appended.

STATEMENT OF RECEIPTS AND EXPENDITURE FOR YEAR ENDED DECEMBER 31st, 1923, ON CURRENT ACCOUNT.

1923.	*Receipts—Current Account.*	£	s.	d.
Dec. 31—Government Subsidy		17,099	1	3
Revenue, Public Examinations		204	3	9
Fees, etc., Annual Examinations		441	10	6
Fees, Matriculation Examination . ..		59	7	6
Revenue, Music Examination . ..		178	0	11
Repatriation Department		300	0	0
Fees for Theses, Degrees, etc		208	13	0
Fees for Certificates		39	8	0
Late Fees, Enrolment of Students		14	10	0
Chair of Agriculture, Estate of late Sir J. Winthrop Hackett—				
Accumulated Arrears of Interest ..		1,450	0	0
Portion of Interest for 1923		490	10	0
Rents, etc., Endowment Lands		1,190	6	9
Deposit on Lease		50	0	0
Interest on Deposits		11	15	0
Rents, Resumed Properties at Crawley ..		209	19	1
Revenue, Crawley Estate		15	10	11
Sales of Calendar		23	19	2
Advertisements, Calendar		7	10	0
Sales of Manual of Public Examinations ..		18	5	6
Advertisements, Manual of Public Examinations		10	10	0
Testing Fees, School of Engineering and Mining		270	2	9
Laboratory Deposits		139	7	8
First Year Deposits		39	9	0
Guild of Undergraduates—Sports Council ..		10	0	0
Miscellaneous		0	10	0
		£22,482	10	9

Examined and found correct as disclosed by the books of the University of Western Australia.

D. J. GOYDER,

1st February, 1924.   Auditor.

STATEMENT OF RECEIPTS AND EXPENDITURE FOR YEAR ENDED DECEMBER 31st, 1923, ON CURRENT ACCOUNT.

1923.	*Expenditure—Current Account.*	£	s.	d.
Dec. 31—Salaries and Wages		17,722	10	9
Apparatus and Maintenance ..		1,922	3	2
Library		718	12	2
Repairs, Furniture, etc.		49	10	0
Printing and Stationery		324	9	5
Lighting		163	13	2
Telephone Charges, Cables, etc.		103	5	6
Postages		59	9	1
Insurance		150	10	1
Travelling Expenses, Appointment of new Lecturer		103	3	3
Travelling Expenses—Delegate to Standing Advisory Committee of Australian Universities		7	15	5
Miscellaneous Expenses		86	0	11
Additions house leased to P. H. Fraenkel		141	13	11
Audit Fee		42	0	0
Clearing Sports Arena, Crawley		56	7	9
Convocation		5	11	4
Advertising		16	2	6
Degree Ceremony		48	19	2
Expenditure Laying of Foundation Stone		125	1	3
Repairs, Men's Common Room		7	0	0
Calendar for 1923		80	8	3
Manual of Public Examinations for 1924		113	16	3
Syllabus, Examinations in Art		13	11	0
Typewriter		10	0	0
Subsidy—Lawn Tennis Club		5	0	0
Water Rates		55	14	8
Sewerage Rates (2 years)		28	0	0
Contour Plan, Crawley		15	15	0
Law Costs—Hackett Estate		7	13	9
Firewood purchased from Clearers at Crawley		140	13	0
Examiners' Fees, Theses, etc.		25	4	0
		£22,349	15	3
Balance Credit		132	15	6
		£22,482	10	9

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR YEAR ENDING DECEMBER 31st, 1923, ON CAPITAL ACCOUNT.

1923.   *Receipts—Capital Account.*   £   s.   d.

Dec. 31—Chair of Agriculture, Estate of late Sir J. Winthrop Hackett—

	£	s.	d.
Payment or capital	18,000	0	0
Henry Seeligson (Senior) Scholarship	1,000	0	0
Henry Seeligson (Senior) Scholarship Interest	22	1	8
W. H. Vincent Scholarship	1,100	0	0
Amy Saw Scholarship	100	0	0
Bloomfield Scholarship	15	0	0
McIntosh Memorial Scholarship	34	13	4
McCallum Smith Scholarship	40	0	0
Prize in Economics	1	1	0
Sanderson Prize in Philosophy	8	0	0
Interest received—Lady Hackett Prize	7	2	0
Interest received—Lady James Prize	6	0	0
Interest received—English Medal	3	0	0
	£20,336	18	0

STATEMENT OF RECEIPTS AND EXPENDITURE FOR YEAR
ENDED DECEMBER 31st, 1923, ON CAPITAL ACCOUNT.

1923.	*Disbursements—Capital Account.*	£	s.	d.
Dec. 31—*Investments—*				
Hackett Estate—				
Melville Road Board £11,000				
Collie Council 7,000				
		18,000	0	0
Henry Seeligson (Senior) Scholarship—				
Mortgage		1,000	0	0
W. H. Vincent Scholarship—				
W.A. Government Treasury Bond ..		1,100	0	0
General Disbursements—				
Amy Saw Scholarship . ..		100	0	0
Bloomfield Scholarship		15	0	0
McIntosh Memorial Scholarship		34	13	4
McCallum Smith Scholarship		40	0	0
Sanderson Prize in Philosophy .. .		8	0	0
Lady Hackett Prize in Classics		3	15	2
Lady James Prize		5	0	0
English Medal		1	10	0
		£20,307	18	6
Balance Credit		28	19	6
		£20,336	18	0

BALANCES.

	£	s.	d.
Credit Balance W.A. Bank, January 1st, 1923 ..	443	16	11
Credit Balance Revenue Account, 31st December, 1923	132	15	6
Credit Balance Capital Account, 31st December, 1923	28	19	6
Credit Balance W.A. Bank, 31st December, 1923	£605	11	11

RESULTS OF ANNUAL AND SUPPLEMENTARY EXAMINATIONS.

NOVEMBER 1923, AND FEBRUARY, 1924.

Subject.	No. of Entries Nov., 1923.	No. of Passes Nov., 1923.	No. of Passes Feb., 1924.	Total Passes.
English I.	76	55	10	65
English II.	57	37	1	38
English III.	35	35	...	35
English Honours	2	2	...	2
Latin I.	9	5	3	8
Latin II.	1	1	...	1
Latin III.	5	2	3	5
Latin Honours	1	1	...	1
Greek I.	2	1	...	1
Greek II.	1	1	...	1
Greek III.	1	1	...	1
French I.	59	49	4	53
French II.	24	15	8	23
French III.	15	14	1	15
German I.	5	5	...	5
German II.	6	6	...	6
German III.	2	2	...	2
History " B "	41	23	9	32
History " C "	11	9	1	10
Economics " B "	45	31	6	37
Economics " C "	4	4	...	4
Logic and Psychology	44	28	6	34
Modern Philosophy	9	6	2	8
Ethics	12	10	2	12
Education	36	24	8	32
Mathematics I.	62	45	5	50
Mathematics II.	13	10	1	11
Mathematics III.	2	2	...	2
Mathematics IV. (Special Course)	1	1	...	1
Applied Mathematics I.	12	10	2	12
Applied Mathematics II.	2	1	1	2
Engineering Mathematics ...	7	6	1	7
Mathematics Honours	1	1	...	1
Physics I.	59	37	9	46
Physics II.	6	5	1	6
Physics III.	2	2	...	2
Engineering Physics	7	5	1	6

RESULTS OF ANNUAL AND SUPPLEMENTARY EXAMINATIONS,—*continued.*

Subject.	No. of Entries, Nov., 1923.	No. of Passes, Nov., 1923.	No. of Passes, Feb., 1924.	Total Passes.
Physics Honours	1	1	...	1
Biology I.	43	28	6	34
Chemistry I.	55	31	6	37
Chemistry II.	5	5	...	5
Chemistry III.	2	2	...	2
Engineering Chemistry	...	...	1	1
Geology I.	7	5	3	8
Geology II.	2	1	1	2
Geology III.	2	1	1	2
Botany IIB.	4	4	...	4
Zoology IIA.	4	4	...	4
Agricultural Botany	3	2	1	3
Veterinary Anatomy and Physiology	3	2	...	2
Preparatory Farm Chemistry ...	3	1	1	2
Book-keeping	3	2	1	3
Agricultural Chemistry	3	3	...	3
Principles of Agriculture	3	3	...	3
Surveying I.	15	12	2	14
Plant Pathology	3	3	...	3
Agricultural Bacteriology ...	3	3	...	3
Dairying	3	3	...	3
Horticulture	3	3	...	3
Veterinary Pathology	3	3	...	3
Veterinary Hgyiene and Diet. ...	3	3	...	3
Descriptive Geometry and Graphics	14	13	...	13
Engineering Drawing	8	8	2	10
Hydraulics	8	6	2	8
Mathematics and Structures ...	8	5	1	6
Mechanics of Machinery and Heat Engines	8	7	4	11
Railway Engineering	1	1	1	2
Philosophy Honours	1	1	...	1
Zoology Honours	1	1	...	1
Applied Science	1	1	...	1

RESULTS OF FINAL HONOURS EXAMINATIONS.

NOVEMBER, 1924.

FACULTY OF ARTS.

Hodges, Marcia Irene—Second Class Honours in Latin and French.

Preshaw, Allan Sydney—First Class Honours in English and Economics.

Turvey, Phyllis May—Third Class Honours in English and Philosophy.

FACULTY OF SCIENCE.

Barclay, Dorothy May—Second Class Honours in Physics.

Cairns, John Edwin Ingliston—First Class Honours in Physics.

Cohen, Wilby Edison—Second Class Honours in Chemistry

FACULTY OF ENGINEERING.

(Distinctions in Final Year of B.E. Course.)

Rogers, Leslie John—Electrical Engineering IIB (Distinction).

INDEX.

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4¼ x 2¼in.	116	9d.	2/–	2/6	5/–
3¼ x 3¼in.	101	1/–	—	3/–	5/6
4¼ x 3¼in.	118 and 124	1/–	2/–	2/6	5/–
4⅞ x 2⅞in.	130	1/–	2/– 10 exp.	3/–	6/–
5 x 4 in.	104	1/–	2/–	3/–	6/–
5¼ x 3¼in.	122	1/–	2/– 10 exp.	3/–	6/6
6¼ x 4¼in.	—	1/6	3/–	5/–	8/6
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